TECHNOLOGY DEPT.

NEW EQUIPMENT DIGEST

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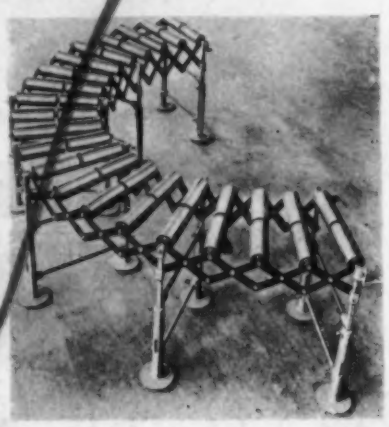
EQUIPMENT • IMPROVEMENTS • PROCESSES • MATERIALS • METHODS • APPLICATIONS • LITERATURE

Vol. 10 | October, 1945 | No. 10

ACCORDION CONVEYOR

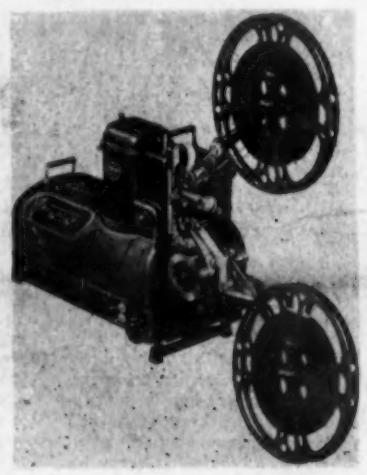


Furnished in open lengths of 60 or 100 inches, conveyor system sections can be folded in same manner as accordion to lengths of 21 or 35 inches. Shorter section has four telescopic legs and longer has six. These permit movement of material by gravity alone.

Since rollers are split in two, material traveling down conveyor can be made to take S-turns without need for use of siding. Rollers are furnished in widths from 10 to 18 inches and carry load of up to 80 pounds. System can be used for transporting semi-heavy material from one part of plant to another without need for moving pillars or heavy machines. Made by **Food Machinery Corp., Riverside, Calif.**

▲ Mention Item NED-5719 when writing ▲

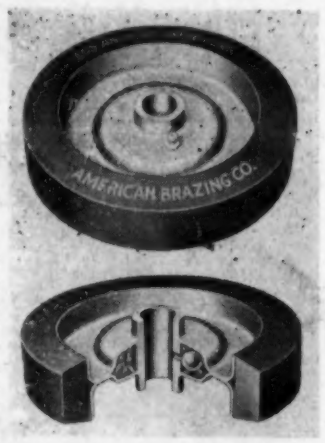
16-MM SOUND PROJECTOR



Featuring aluminum castings throughout, Premier-10 sound-on-film 16 - millimeter projector is equipped for both silent and sound film speeds and reverse operation. Light, compact and portable, projector is particularly suited for sales training, business building and other industrial applications. Price complete with 2-inch F1.6 super lens is $422. For increased illumination, 2-inch F1.6 coated lens can be furnished for additional $4. Made by **Ampro Corp.**, 2835 N. Western Ave., Chicago 18, Ill.

▲ Mention Item NED-5720 when writing ▲

STEEL WHEELS



Consisting of two pressed steel discs permanently joined by copper brazing, 6 and 8-inch diameter wheels support loads up to 500 pounds. Tires are vulcanized directly on wheel which has V-groove center line in rim to assure alignment.

Hub with ¼-inch wall has scatered hole for lubricating hole. Lubrication is effected by placing steel ball in oil reservoir before brazing. Action of ball in lubricant provides automatic lubrication and by rattling serves as signal when reservoir is dry. Made by American Brazing Co.; available from **Yarco Distributors**, 215 W. Seventh St., Los Angeles 14, Calif.

▲ Mention Item NED-5721 when writing ▲

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CIRCULAR FLUORESCENT LAMP

Supplied with translucent rotating base, circular fluorescent lamp is suitable for ceiling fixtures, table and other portable lamps. Plastic bases permit turning lamp 180 degrees without removing it from lamp holder. When position is reversed, lamp can be turned another 180 degrees. Translucent bases pick up light from lamp and tend to eliminate dark spots in continuous ring of light.

Illustrated lamp has outside diameter of 12 inches, is rated at 32 watts, 2500-hour life and has output of 1600 lumens from T-10 bulb. Other circular lamps will be available with 8½ and 16-inch outside diameters. Two or more lamps of different diameters can be mounted together to provide concentric rings of diffused light. Lamps operate with conventional ballasts furnished with manual or automatic starter control. Made by **Sylvania Electric Products Inc.**, Dept. FWM, 60 Boston St., Salem, Mass.

▲ Mention Item NED-5722 when writing ▲

TO AMERICA'S WAR WORKERS IN INDUSTRY

"On this first day of peace, I extend the thanks of the Army Service Forces to you men and women—labor and management alike—who performed miracle upon miracle to supply our fighting forces the world over with the weapons so necessary to crush a mighty and ruthless enemy. Without you, without the food and clothing, guns and munitions, planes and tanks and all other myriad items of war you produced, your sons and brothers, fathers and husbands, would have faced the enemy in vain.

"Without your loyalty, your skill, your muscles, and your brains, without your unselfish devotion to our common cause, we never would have been able to furnish the tools of glorious victory. You planners and workers in all our industries have contributed heroically. There are many heroes among you, just as there have been heroes in the thick of bursting shells at the battle fronts. I know that I speak for every member of the armed forces when I say to you, 'God bless you.'"

Gen. Brehon Somervell
Commanding General
Army Service Forces

Do You Know

■ SEVEN times lighter in weight than cork, flotofoam made it possible for heavily armored vehicles to be unloaded a mile at sea and to go ashore under their own power, with guns firing. Material was used to fill large steel pontons which would not sink even when pierced by gunfire. Peacetime uses of this buoyant product will include home and industrial insulation, and buoyancy units. Made by United States Rubber Co., 1207 Rockefeller Center, New York, N. Y.

▲ Mention Item NED-5723 when writing ▲

Decalcomanias with "two-way stretch" are again available for general use. Elasti-Cals are made of stretchable material and can be used as nameplates, trade marks or decoration on rubber and other elastic surfaces. Made by Meyercord Co., 5323 W. Lake St., Chicago, Ill.

▲ Mention Item NED-5724 when writing ▲

Practical data to aid in selection and use of cut-off and high speed grinding wheels is offered in 64-page full-color illustrated catalog No. 645. Guidance is provided for tool grinding, and grinding technique is explained. Included is circular type grinding speed calculator which yields surface speed, rotational speed or wheel diameter when two of three elements are known. Grinding wheel survey forms are included to aid in obtaining wheel recommendations for given work. Offered free by Electro Refractories & Alloys Corp., 344 Delaware Ave., Buffalo 2, N. Y.

▲ Mention Item NED-5725 when writing ▲

Read Carefully
CHECK AND PASS ON

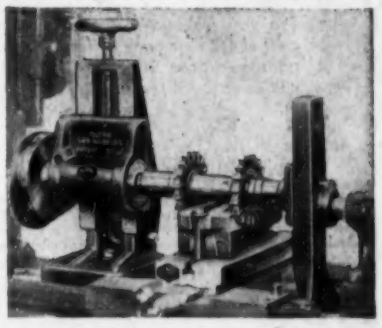
CHECK	NAME AND TITLE	SEE ITEM NO.

SMALL DUST COLLECTORS

Designed primarily for 25-cycle alternating current operation, Air-rester belted motor driven dust collectors are also available in 60-cycle models. They are made in 450-cubic foot per minute size powered by 3/4-horsepower motor and with capacity of 1000 cubic feet per minute driven by 1½-horsepower unit. These machines are adaptable for collecting dust from all types of grinding, buffing and polishing machines. Lower compartment contains suction fan and motor, while ample size dust collecting chamber is located on top of stand. Dust chamber is fitted with filtering pads for arresting dust. Exhausted air leaves unit without perceptible dust, at low velocity and does not create objectionable draft or air movement. Made by **Standard Electrical Tool Co.**, 2488 River Road, Cincinnati, O.

▲ Mention Item NED-5726 when writing ▲

LATHE MILLING ATTACHMENT



Practically any lathe can be converted, through use of this Globe Miller, into a combination machine which performs precision milling operations. Attachment fits on ways of lathe and its operation is identical with that of standard milling machine, except that spindle is moved into position to engage work, rather than work lifted to engage spindle.

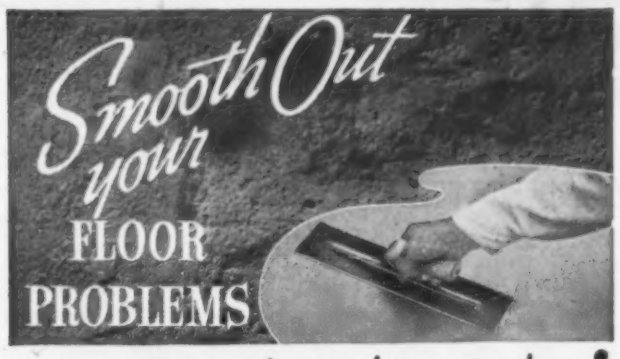
Device also increases swing of small lathe by almost double. Swing of 11-inch lathe is increased to 19½ inches. Unit will perform almost any milling operation such as gear cutting, slitting, gang milling, cutting T-slots, keyway cutting, etc. Sizes are available for most standard makes and sizes of lathes. Made by **Globe Products Mfg. Co.**, Machine Tool Div., 3380 Robertson Blvd., Los Angeles 34, Calif.

▲ Mention Item NED-5727 when writing ▲

CUSHIONED BOX STRAPPING

Consisting of highly flexible steel band core sheathed in waterproofed kraft paper, Fiber-Steel box strapping can be applied directly to enameled or painted surfaces without danger of marring surface. It can be handled without hazard of cutting fingers. Smooth, wax-finished, water repellent cover is scuff resistant and provides proper tension without excessive biting into corrugated containers. Because of paper covering, trademarks and company names can be imprinted directly on strapping. Made by **A. J. Gerrard & Co.**, 221 N. LaSalle St., Chicago 1, Ill.

▲ Mention Item NED-5728 when writing ▲



with PLASTIC ROCK!

Trowel a smooth, tough, plastic surfacing right over your old concrete or wood floor

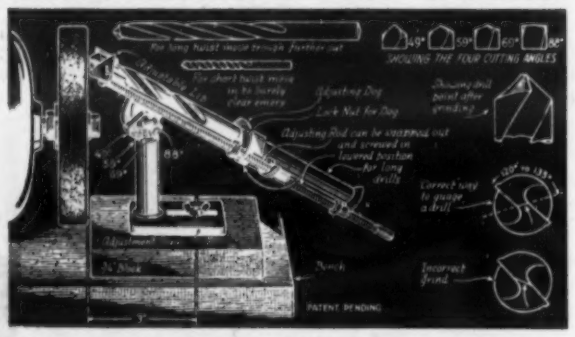
Plastic Rock comes complete, packed in barrels. Nothing more to buy. No application "formula" to confuse you. Simply mix and trowel right over old floor. Average depth one-half inch. Old floor Saturday is a new floor Monday. Also patches concrete to a perfect feather edge. Plastic Rock is absolutely spark-proof, skid-safe wet or dry, dustless, silent. Feels like cork under foot. Cannot splinter, crack, crumble, curl or loosen. Heavy loads on steel wheels actually improve it. Five-year old floors show no wear. Rich, dark neutral gray. Used by U. S. Army, Navy and largest industries in America. Your contractor or your own crew can apply.

Ask for your copy of Report 220-10

UNITED LABORATORIES, INC.
16804 EUCLID AVENUE • CLEVELAND 12, OHIO
Export Division: WASHINGTON INTERNATIONAL SALES, Washington, D.C.
In Canada: STORRAR MANUFACTURING COMPANY, Weston, Ontario

▲ Mention Item NED-5729 when writing ▲

IMPROVED SUPER DRILL GRINDER



Sharpens Round Shank Drills from 3/32" to 1-1/16" diameter.
Grinds old drills like new in 4 different drill point angles.
Grinds short, medium and long twist drills up to 11" long.

Workmen grind their drills like factory in 25 seconds. Gives a perfect center and clearance, saves drills, time and money. No shop should be without the Super Drill Grinder. Guaranteed to do the work or money back. The grinder that gives a rounded point! Positive angle guides instead of protractor.

See your jobber—if he cannot supply, mail check or money order with printed address. Your SUPER DRILL GRINDER will come by return mail, postage paid.

ONLY $2.95

A. D. McBURNEY
939 West 6th Street, Dept. NED-10, Los Angeles 14, Calif.

▲ Mention Item NED-5730 when writing ▲

Now—
MAXIMUM PROTECTION
against corrosion
DUE TO HIGH TEMPERATURES, GAS FUMES and THE ELEMENTS

Thur-ma-lox* No. 7 Black a high heat resisting paint will maintain in good condition exterior and interior metal surfaces subject to abnormal temperatures from *ice cold to a cherry red heat.*

Thur-ma-lox No. 7 remains in an elastic condition expanding and contracting with the heating and cooling of the metal.

Easily applied to either warm or cold surfaces by spray or brush it will provide positive protection against the elements, fumes of sulphur dioxide, carbon dioxide, acetic acid or chlorine.

Write for bulletin 241 describing Thur-ma-lox more in detail and how to apply it.
*Patented

APPLY THUR-MA-LOX TO:
Fire Doors
Flues & Breechings
Steam & Hot Oil Pumps
Lined & Unlined Steel Stacks
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Water Gas Machines

THURMALOX COMPANY
Manufacturers
DOYLESTOWN, PA.
SALES OFFICE: 3109 N. Broad Street • Phila. 32, Pa.

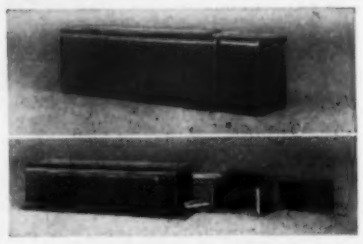
▲ Mention Item NED-5731 when writing ▲

HOLE CUTTING KIT

Holes of various diameters in wood, metal or plastics can be produced readily with tools included in this Hole Cutter Kit. Kit No. 790 includes adjustable hole cutters with straight shanks for use in drill presses, pneumatic and portable electric drills. Included is No. 100 cutter with ¼-inch shank for holes ranging from ⅝ to 1¼ inches in diameter and No. 101 cutter with ⅜-inch shank for holes from 1 to 2½ inches in diameter. Tools have high speed steel blades with all-purpose grind for various materials. Made by **Bruno Tools**, Dept. NED, 9330 Santa Monica Blvd., Beverly Hills, Calif.

▲ Mention Item NED-5732 when writing ▲

LIGHTING BALLASTS

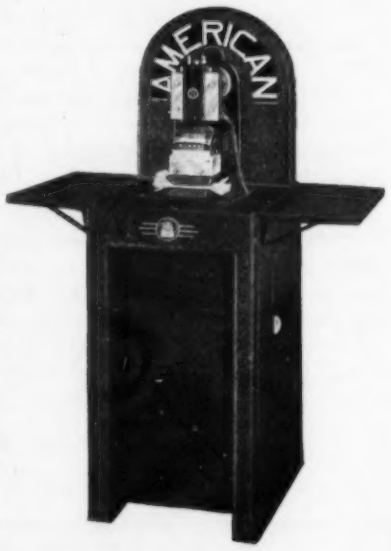


Featuring junction box which can be attached easily with bolts used for mounting standard ballasts, cold cathode ballasts have two-piece box as shown. One piece is designed to slide over guides on one end of ballast case, while other forms cover which is secured by one screw. Suitable knock-outs are provided in sides. These units are listed as standard by Underwriters' Laboratories. Made by **Jefferson Electric Co.**, 903 S. 25th St., Bellwood, Ill.

▲ Mention Item NED-5733 when writing ▲

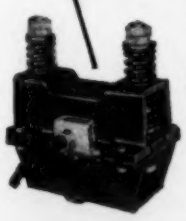
ELECTRIC PERFORATORS

Especially suited to high speed check canceling operations, Models 72 and 71 electric perforating machines have outputs of 500 and 900 checks per minute, respectively. Illustrated model 71 is of heavy duty type. Features of both machines include automatic clutch tripping mechanism, with foot pedal control as special attachment. Floating motor and rubber mounted head eliminate vibration. Drop leaves of table provide additional work space. Capacitor type motor is used to prevent excessive starting load. Two complete die blocks are standard equipment. Made by **American Perforator Co.**, 613 W. Jackson Blvd., Chicago 6, Ill.



▲ Mention Item NED-5734 when writing ▲

SYNTRON
"Pulsating Magnet"
ELECTRIC VIBRATORS



ASSURE FREE FLOWING
BINS, HOPPERS AND CHUTES

3600 powerful "Electronic-Controlled" vibrations per minute, break down arching and plugging—without damage to prime equipment.

Eliminate pounding and sledging.

Write for illustrated folder

SYNTRON CO., 405 Lexington, Homer City, Pa.

▲ Mention Item NED-5735 when writing ▲

EVEN FINER!

Typical application of the famous MARK-TIME, Timer to washing machines—with improved control. THOUSANDS OF OTHER products require MARK-TIME Timers—for better performance and increased salability.

Consult with our engineers on YOUR timing problems.

M. H. Rhodes, Inc.
30 Bartholomew Ave., Hartford 6, Conn.

▲ Mention Item NED-5736 when writing ▲

Now... Leakage Resistance Measurements at Low Potentials!

WESTON Model 799
INSULATION TESTER
• 10 BILLION Ohms •

will measure: insulation properties . . . resistance leakage . . . conductivity of insulating materials . . . leakage due to moisture absorption . . . readings — .1 to 10,000 megohms

Because of its compactness and extreme high sensitivity, this direct reading instrument fills an important measurement gap in the production and servicing of a wide variety of components and electrical devices. Minute faults can be detected in advance . . . tests can be made without destructive breakdown. Test potential less than 50 volts.

Here's what a few typical users say about Model 799:

"We use it for testing the leakage between windings in transformers, or from windings to core or case."

"We can test the leakage of low voltage paper and mica condensers with the 799, and without danger of damaging the dielectric."

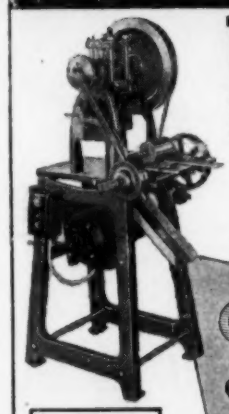
"Model 799 is also ideal for checking leakage due to moisture in fiber terminal strip."

For complete data, write... Weston Electrical Instrument Corp., 663 Frelinghuysen Ave., Newark 5, N.

Weston *Instruments*

▲ Mention Item NED-5737 when writing ▲

SMALL
METAL • FIBRE • PLASTIC • PAPER
STAMPINGS
FAST
with the
DIEBEL
Hi Speed 550 RPM STAMPING PRESS



Up to 550 Strokes a Minute
Heavy Duty Construction
5 Ton Capacity—Small Floor Space—Low Operating Cost

INCLUDE IN YOUR POST-WAR PLANNING

WRITE FOR CATALOG

DI MACHINE CORP. 3652 N. LINCOLN AVE. CHICAGO 13, ILLINOIS
DIVISION OF DIEBEL DIE & MFG. CO.

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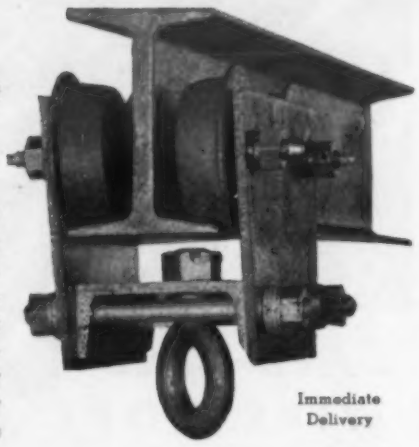
GRAY TROLLEYS

For Any Size I-Beam



Immediate Delivery

GRAY TROLLEYS are designed to meet the demand of industry for a trolley with closest possible headroom. They safely and efficiently raise loads, are easily transferable through the shop, and are equipped with New Type, Thoroughly Sealed, Gray Ball Bearing Trolley Wheels.

Long, trouble-free service is what you get with every GRAY TROLLEY and that's an important consideration today. Made in 250 lb. to 2-ton standard capacity sizes adjustable to suit various I-Beams. We would like you to have our bulletin which describes and illustrates in detail our TROLLEYS and our TROLLEY WHEELS. Send for it now!

GRAY HUB COMPANY

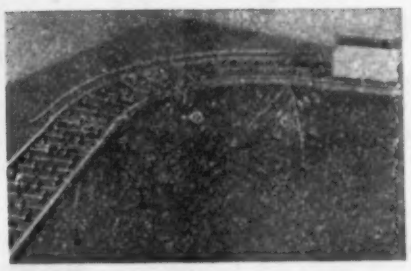
Incorporated 1922

17265-17403 GABLE AVENUE DETROIT 12, MICHIGAN

▲ Mention Item NED-5739 when writing ▲

SPEED UP with SPEEDWAYS

Low Cost, Gravity Case Conveyor

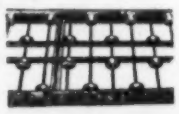


Above: Model 15-SW-6 curve and straight section with single center band. Note guard rail (X). Gouboard support for 90° curves. Extra Safety—no extra charge!

Delivery the day your order is received!

Eliminate material handling bottlenecks with sturdy, lightweight SPEEDWAYS gravity CONVEYORS . . . for almost any job of moving cases, cartons, crates, boxes—quickly — safely — efficiently — and with *less* manpower.

AVAILABLE in 5′ and 10′ straight sections; 45° and 90° reversible curves; 3 sizes of adjustable stands; ideal for portable or permanent installations! Sections interlock—easily joined without tools! Special Models from 4¼″ to 24″ in width available—Details upon request.



Model 15-SW-8 available in 5′ and 10′ straight sections. Note two center bands (standard on 1945 models).

DELIVERY FROM STOCK—AGENTS IN PRINCIPAL CITIES!

3082 MAIN ST.
AMherst 1510
BUFFALO 14, N.Y.

SPEEDWAYS CONVEYORS, INC.

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Now Also Available in NEW LIGHT DUTY STYLE

All-Neoprene Latex INDUSTRIAL GLOVES

Impermeable to practically All Acids and Caustics

Highly Resistant to Oils and Greases

5 POPULAR STYLES

★ No. 5760-5, 18″ LONG
EXTRA LONG GAUNTLET
GAUGE .030 TO .040
SIZES 10, 11

★ No. 5737-2, 14″ LONG
LONG GAUNTLET
GAUGE .030 TO .040
SIZES 9-10-11-11½-12

★ No. 5705-5, 11″ LONG
SHORT GAUNTLET
GAUGE .020 TO .025
SIZES 9-10-11

★ No. 5703-5, 10½″ LONG
STANDARD DUTY
GAUGE .015
SIZES 7-8-9-10-11

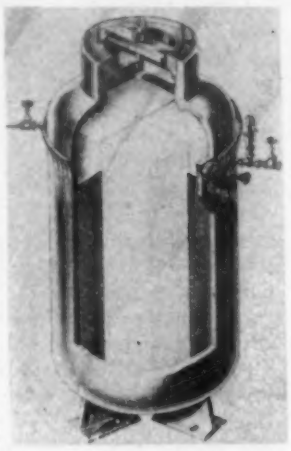
★ No. 5702-5, 10½″ LONG
LIGHT DUTY
GAUGE .010 TO .012
SIZES 7-8-9-10-11

REQUEST SAMPLES AND PRICES

SEIBERLING LATEX PRODUCTS CO.
AKRON, OHIO
200 5th Ave., New York City Merchandise Mart, Chicago

▲ Mention Item NED-5741 when writing ▲

DRY ICE LIQUIFIER



Solid carbon dioxide is transformed into liquid form in this Jumbo dry ice liquifier to assist bottlers of carbonated beverages, users of carbon dioxide fire extinguishers and other users. Equipment consists essentially of welded special steel tank measuring 6-3/4 feet high and 34 inches in diameter and having capacity of 20 full-sized blocks or 1000 pounds of dry ice. Use of uncrushed blocks is said to save labor and reduce evaporation loss.

Safety pressure relief devices are used and unit carries stamped approval of the Hartford Steam Boiler Inspection and Insurance Co. To charge machine, blocks of dry ice are dropped through 15-inch circular opening at top. It is then closed. Water is run down outside surface from perforated ring near top and liquifier is ready for operation. Made by **Mathieson Alkali Works, 60 E. 42nd St., New York, N. Y.**

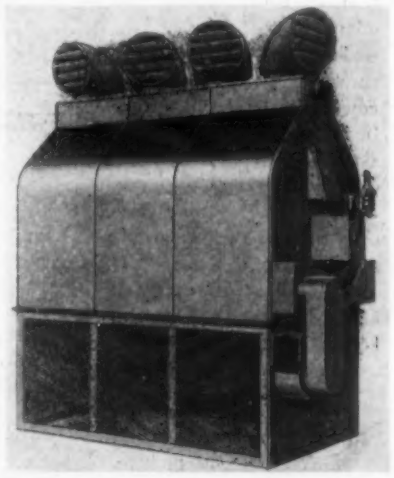
▲ Mention Item NED-5742 when writing ▲

WEEKLY WALL CALENDAR

Featuring giant numerals of each week combined with current, previous and following month, 1946 weekly wall calendar also includes section of technical data. Data covers wire and sheet metal gages, and screw threads. Twelve month calendar is also included. Multi-colored illustration by Stan Ekman is said to make calendar attractive for office and drafting room use. Calendars are supplied free of charge by **Frederick Post Co., Box 803, Chicago 90, Ill.**

▲ Mention Item NED-5743 when writing ▲

DIRECT-FIRED HEATERS



Comprising models for use with all types of fuel, line of direct-fired heaters ranges in capacity from 75,000 to 2,000,000 British thermal units output per hour. Heaters are made entirely of steel, are self-contained and are equipped with automatic control systems. They can be installed for air distribution directly through rotatable diffusers or through ducts.

Since unit is shipped in two sections it can be placed without heavy crane facilities. Filters can be applied without special transformations requiring additional floor space. Low resistance through heater provides quiet fan operation and low power requirements. Fan is of independent V-belt driven induced draft type. Units have self-contained automatic thermostatically controlled humidification. Made by **Herbert H. Davis Co., 1616 S. 52nd St., Cicero, Ill.**

▲ Mention Item NED-5744 when writing ▲

RELIEVES TELEPHONE FACILITIES ...

Bogen SOUND and COMMUNO-PHONE Equipment

provides direct communications!

Hundreds of case histories prove that substantial economies effected in telephone rentals, toll charges and service improvements—more than justify the low cost of BOGEN Communo-Phone installations. Reduced line tie-up, lighter loads on switchboards, fewer extensions required, elimination of busy signals and the rapid location of parties are all direct advantages of BOGEN equipment. — **Address Inquiries to Dept. B**

Type A Communo Phone

THE STANDARD OF PERFORMANCE
Bogen Sound Systems

David Bogen CO. INC.

OFFICES: 663 BROADWAY, NEW YORK 12, N. Y.

BOGEN SOUND SYSTEMS • AMPLIFIERS
COMMUNO-PHONES • ELECTRONIC EQUIPMENT

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MOST POWERFUL HAND CLEANER

IDEAL "3 in 1" ELECTRIC CLEANERS

Completely remove dirt, dust, etc. from motors, electrical equipment and machinery with this IDEAL general purpose cleaner. Most powerful hand cleaner made. Blows clean, dry air, evaporates moisture, prevents corrosion. *Now Available.*

TANK-TYPE CLEANERS also available

Write for Detailed Literature

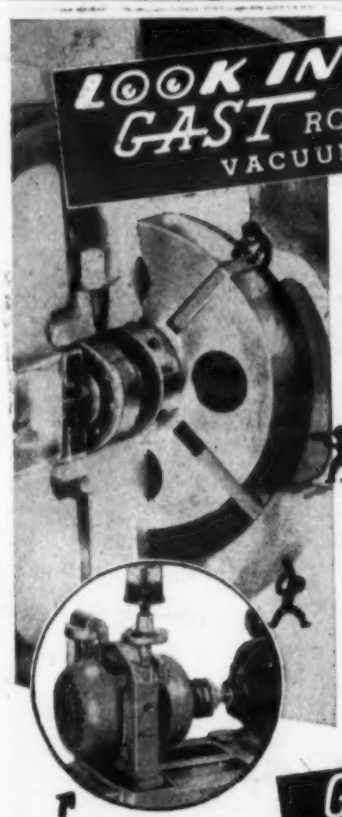
IDEAL *Sycamore*

Industrial Cleaner Division

IDEAL COMMUTATOR DRESSER CO.
1032 Park Ave. Sycamore, Ill.
Sales offices in all principal cities
In Canada: Irving Smith Ltd., Montreal, Quebec. 1165

▲ Mention Item NED-5746 when writing ▲

LOOK INTO GAST ROTARY VACUUM PUMPS



10FF60 (½ H. P.) Heavy Duty Rotary Vacuum Pump

Look into Gast Rotaries... hundreds of manufacturers have. They're now using, with great success, Gast Vacuum Pumps as standard equipment on applications ranging from automatic chuck operations to milking machines, filtration, packaging and labeling, paper feeding, vacuum printing frames, brake boosters, etc.

Look into the advantages of Gast Rotary design for the reasons back of Gast's superior performance. Note the sliding vanes held against cylinder wall by centrifugal force, no springs, providing Automatic Take-Up for wear; Forced Air Cooling, Automatic Shaft Seal, and no reciprocating parts. It will pay you to look into Gast Rotary Vacuum Pumps.

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1097

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With Hints on Working with Purchasing Agents

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How to interpret and supply the needs of your company for goods and services.
How to work smoothly with suppliers to procure the best possible goods and services for your company at lowest cost.

A broad, over-all picture of the purchasing function and its importance in the industrial world. A practical, down-to-earth discussion, illustrated with actual examples from varied types of industry, of the purchasing agent's job and its place in the industrial set-up.

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Operating on less than 2 cubic feet of air per minute at 80 to 100 pounds per square inch, Bantam Bully pneumatic hammer delivers 13,000 blows per minute. Since it weighs less than 2 pounds and has pistol grip handle of dimpled aluminum casting, it gives operator comfortable control of firing power. It is easily controlled by valve control in pistol trigger position.

Tools are loaded in ball-and-channel locking chuck. Quarter turn of knurled nose of chuck locks or releases tools. Piston striking member which is fitted in finely ground cylinder is only moving part. Travel of hammer piston is approximately 3/8-inch.

Uses for tool include cold chiseling of metals, peening, welding flash stripping, light scaling, light riveting, forming and finishing, routing of all kinds, paint and rust removal, caulking, template marking, and special driving, cutting and vibrating jobs in electric motor and small machinery assembly. Made by Superior Mfg. Co., Public Square Bldg., Cleveland 13, O.

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PORTABLE ELECTRIC SANDER

Several improved features have been added to model XL-50 and XL80 Easy reciprocating electric sanders. These include floating pistol-grip handle mounted on rubber, more powerful motor and slide type switch on side of handle. Vibrationless cutting is possible because of balanced construction. Tool is adaptable for wide range of surfacing applications on plastics, metal, wood, slate, leather and other materials.

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- Eliminates Splicing and Serving
- Easy to Use, Easy to Re-adjust
- Outpulls Strongest Rope—Never Slips
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FOR ROPE SIZES 1/8" TO 3/4"

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The specification and layout of correct types of handling equipment to meet individual conditions is a job for experienced conveyor engineers. Logan has served all types of industry for over 30 years. Write for catalog. Logan Co., Inc., 215 Cabel St., Louisville, Ky.

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Efficient . . . Safe . . . Economical . . . Easy to install CHROMALOX Cartridge Heaters provide dependable heat when and where you need it. Dies, molds, platens, etc. quickly and accurately heated to controlled temperatures. For more know-how send for "100 Ways to Apply Electric Heat" booklet, Catalog 42 and address of your CHROMALOX Application Engineer.

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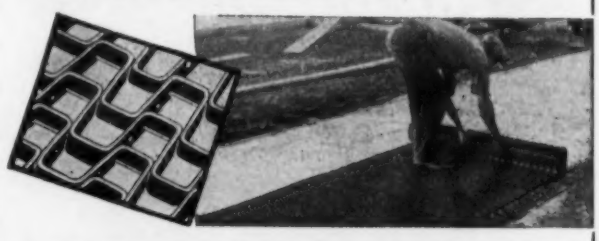
FIRST PROTECTION
of Equipment, Old or New



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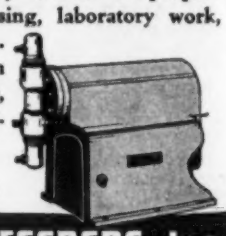
(PROPORTIONING PUMPS)
Guaranteed better than 1/8 of 1% accurate

Eminently superior, almost infallible flow-controls to handle liquids of any nature in any pre-determined quantity from one cubic centimeter to four hundred or more gallons per hour. Accuracy, in most instances, is guaranteed at better than 1/8 of 1% for single or multiple liquids. Flexible and adaptable, they satisfy an almost limitless range of requirements.

Let us send you details of their packless, positive-displacement piston action of the absence of packing glands and breakable diaphragms . . freedom of contact between working parts and flowing liquids. Let us tell you how they will meet your specific requirements for capacity, accuracy, economy, durability and dependability, as those requirements apply to chemical proportioning, food and other processing, laboratory work, water and sewage treatment . . or to the handling of problem liquids such as acids, volatiles, slurries, etc., in mono- or multi-flow.



Literature on Request.

RX-7

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MILL IT ON YOUR LATHE

WITH A PALMGREN MILLING ATTACHMENT

(COMPLETE WITH VISE)

Now you can do milling; cutting key-ways, slotting, surfacing, sawing at angles, grinding, recessing, squaring shafts, beveling, grooving and many other important operations right on your lathe. PALMGREN MILLING ATTACHMENT with VISE is a necessary fixture for small shops and emergency work in large plants. Adaptable for South Bend, Atlas, Craftsman, Logan, Sheldon and all other lathes, it has graduated vertical angle adjustments, is easily mounted by straddling lathe's regular Tool Post. Every lathe owner should have one . . . it will quickly pay for itself.

	Nos.	Width Jaws	Depth Jaws	Jaw Open	Weight Pounds	Price F.O.B. Plant
No. 250 Milling Attachment Complete With Vise	250	2½"	1 7/16"	2½"	10½	$24.75
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Order from your dealer or jobber. Send for our Circular No. 600.

CHICAGO TOOL AND ENGINEERING CO.

Mfrs. of PALMGREN PRODUCTS for Over 25 Years

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4 to 5 Times LONGER LIFE

Dressing Time REDUCED BY TWO THIRDS

and here's the proof!

UNTREATED TREATED

At left... Ordinary carbon brazing tips ready for the discard after only 500 operations. At right . . . Stackpole "F" treated tips AFTER 1300 SIMILAR OPERATIONS!

CARBON BRAZING TIPS

...with the famous Stackpole "F" Treatment

STACKPOLE'S recently developed "F" treatment for its Carbon Brazing Tips has resulted in units that operate at temperatures above red heat, require dressing far less often, and increase tip life four to five times that of untreated carbon by minimizing oxidation. Their resistance to cracking or spalling permits more radical temperature changes than is possible with any other material.

SAMPLES...sent for test. State size and shape. Mention company affiliation.

STACKPOLE CARBON CO. ST. MARYS, PA.

EXPORT: Stackpole Carbon Co., 254 W. 31st St., New York 1, N. Y., U. S. A.

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CERRO LOW TEMPERATURE MELTING ALLOYS

CERROMATRIX—250° F. For securing punch and die parts; anchoring machine parts; short run forming dies; etc.
CERROBEND—158° F. As a filler for bending thin-walled tubing—melts out in boiling water. Also used for automotive and aircraft assembly jigs, forming dies, etc.
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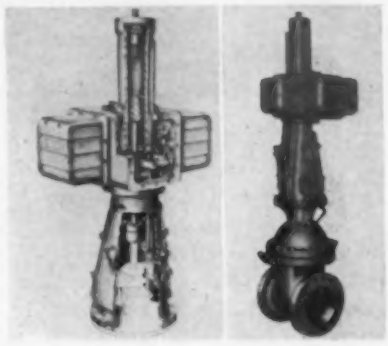
HYDRAULIC VALVE ACTUATOR



Applicable for use on valves ranging from 4 to 36 inches, Hydrodyne actuator incorporates simple hydraulic system which produces force in straight line through hydraulic cylinder to open and close valve. As valve seats, hydraulic pressure continues to build up and pressure seals gate against leakage. Pressure is then hydraulically locked in cylinder and only the reverse action will unlock it. Should pressure drop from any cause, it is automatically re-established immediately. For emergencies unit is also provided with independent hydraulic system employing handpump.

Pressure sealing action eliminates backlash in seating operation. Since hydraulic oil serves as lubricant for all moving parts, routine inspection only is required. Auxiliary regulating and indicating equipment can be furnished for step-by-step position control, infinite position control or on-and-off control for virtually any type of application. Made by Pacific Div., Bendix Aviation Corp., 11603 Sherman Way, North Hollywood 28, Calif.

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PORTABLE LATHE

Designed primarily for automotive brake drum service, portable lathe has wide application in industrial plants and shops for internal machining, grinding and honing. Built on same principle as internal boring bar, lathe has range of swing of 7 to 24 inches, is equipped with rheostat speed control, operates on 110-volt alternating or direct current, and handles large and heavy brake drums or equivalent work.

Outer end of lathe shaft rests on adjustable steady rest to prevent off-center deflection because of weight of object being machined. Entire unit is mounted on balanced, rubber tired wheeled truck. When unit is placed on floor in operating position, wheels are raised from contact with floor, providing firm support for lathe. Made by Barrett Equipment Co., 2101 Cass Ave., St. Louis 6, Mo.

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Unbreakable high-fidelity phonograph records will be available soon at cost slightly above that of standard shellac composition discs. Made of plastic, these records have reduced surface sound and will afford improved reproduction. Made by RCA Victor Div., Radio Corp. of America, Camden, N. J.

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To repair a radial crack, as shown above, remove enough metal to receive a carefully fitted metal plug. Coat recess and plug thoroughly with Smooth-On No. 3 Iron Repair Cement—which comes ready to use, in paste form, in 1-, 5-, and 25-lb. sizes. Secure plug in place with flat-head screws, also seated with Smooth-On. Smooth-On will harden like the piston metal, sealing the crack and holding the plug tightly in place.

Keep Smooth-On handy for both emergency and routine maintenance repairs. Order from your supply house, or direct from us if necessary.

FREE REPAIR HANDBOOK

1895-1945 Half a Century of Dependable Service

40 pages. 170 diagrams. Clear, concise directions for many practical, tested, inexpensive plant and shop repairs. Handy pocket size. Just send us your name and address on a postcard.

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Do it with SMOOTH-ON
The Iron Repair Cement of 1000 Uses

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Full Circle Type.

Modernize ALL Your Washrooms

If you have some of your washrooms equipped with Bradley Washfountains—make plans to improve the others to provide equal, adequate, sanitary facilities for all.

If you haven't had time to install Bradleys during the last few years—take the first step in reconversion by ordering sanitary, modern Washfountains now.

Get These Advantages

Eight to 10 wash simultaneously, saving time. Each person washes in clean, *running* spray of water—reducing chance of contamination and dermatitis. Each Bradley replaces 8 to 10 "single-person" wash basins. Cuts water consumption 70%, reduces piping connections 80%, central sprayhead takes place of 16 to 20 faucets. BRADLEY WASHFOUNTAIN CO., 2253 W. Michigan St., Milwaukee 1, Wis.

Write today for Catalog 4308 and Washroom Survey Sheet

BRADLEY washfountains

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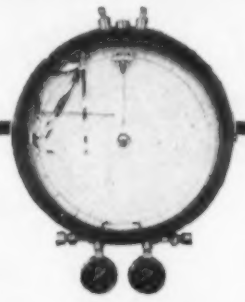

Accurate, Automatic RELATION CONTROL

On any process where two variables must be held in definite relationship through control of only one, a Foxboro Relation Controller effectively solves the problem. For instance, it may be necessary to hold one temperature of a process 20° higher than a certain uncontrolled temperature . . . or to control a pressure in relation to an uncontrolled temperature. Foxboro's Relation Controller automatically and continuously maintains the desired relationship and provides accurate graphic records.

A note outlining your requirements will help us be of service to you. Write The Foxboro Company, 134 Neponset Avenue, Foxboro, Massachusetts, U. S. A.

FOXBORO Reg. U. S. Pat. Off. RELATION CONTROL

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Poro-Stone Filtration FOR COMPRESSED AIR

EFFICIENTLY REMOVES

OIL, WATER PIPE SCALE

The Adams *Poro-Stone* Filter gives continuous service without attention or maintenance expense. Efficient centrifugal separation *plus* diffusion through Poro-Stone, removes contamination completely without pressure loss. Automatic Trap eliminates attention and assures continuous and efficient filter operation. Write for complete data—Bulletin 104.

R. P. ADAMS CO., INC.
63 Chicago St. • Buffalo, N. Y.

ADAMS Poro-Stone AIR FILTER

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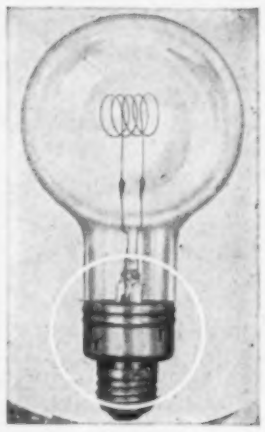
INFRA-RED DRYING LAMPS



Now supplied with mechanical joint between base and bulb, Nalco Dritherm carbon filament infra-red lamps are permanently sealed to withstand all operating conditions. This method of locking base to bulb assures maximum lamp life under high heat conditions encountered in infra-red tunnel installations. Clear type lamp is furnished with this construction in 128, 250, 375 and 500-watt sizes. Inside silvered R-40 lamps with mechanical base can be supplied in 128, 250 and 375-watt sizes. Made by **North American Electric Lamp Co.**, 1026 Tyler St., St. Louis 6, Mo.

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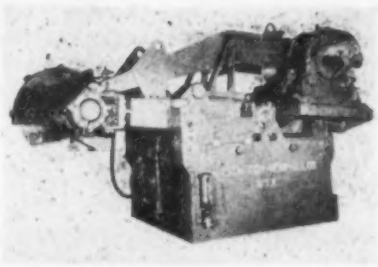
TILTING HOT SAW



Compactly constructed 50-inch tilting hot saw is adaptable for installation where space is limited. It is especially suited for cutting billets, rails and similar types of sections. Powered by 150-horsepower motor through V-belt drive, saw has peripheral cutting speed of 22,000 feet per minute. Mandrel with Timken bearings has force-feed circulating oil system. Mandrel head is removable to facilitate changing of V-belts. It has variable speed drive with wide range of feeds. Made by **Mackintosh-Hemphill Co.**, 903 Bingham St., Pittsburgh 3, Pa.

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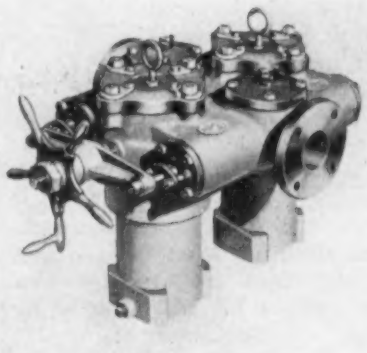
DUPLEX PIPELINE STRAINER



Duplex vertical chamber disc type pipeline strainer is operated by large handwheel that reverses valves simultaneously with minimum pressure drop. Strainer basket is set eccentrically in basket chamber so that flow section is proportional to flow needs at all points.

Removable covers provide easy access to basket chamber and permit easy cleaning. Large handholes above each valve assembly allow servicing of valves without removing strainer.

Unit protects all types of pumps, traps, valves, regulators, aspirators, injectors, control units and other primary equipment. It is available in cast bronze, steel, semisteel and cast iron. Basket can be perforated brass, monel or other specified metal. Made by **J. A. Zurn Mfg. Co.**, Erie, Pa.

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PUT AN END TO CORROSION
During Shipment and Storage

Plastic Coatings will do the job

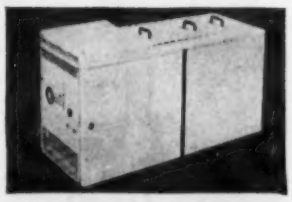
Coatings of ethylcellulose compounds—applied by dipping—provide exceptional protection for metal parts and products. The plastic forms a coating that safeguards the metal from rust or handling damage—even during overseas shipment or long-time storage.

COATING FLANGE WITH PLASTIC

The YM Plasticoater will do it right

For *best* results in applying coatings, use the YM Plasticoater—*specifically* designed to do the job. Get these outstanding advantages: **Accurate Automatic Temperature Control** of both heating jacket oil and plastic. **Uniform Temperature Distribution. Continuous Plastic Movement,** to remove bubbles and prevent separation of compounds. **Constant Dipping Surface Level. Automatic Time Clock** for early morning pre-heating of plastic.

There's a Plasticoater for every requirement—write for further information.



THE YM PLASTICOATER

THE YOUNGSTOWN MILLER COMPANY
A subsidiary of Walter Kidde & Company, Inc.
1046 Kidde Avenue Belleville 9, New Jersey

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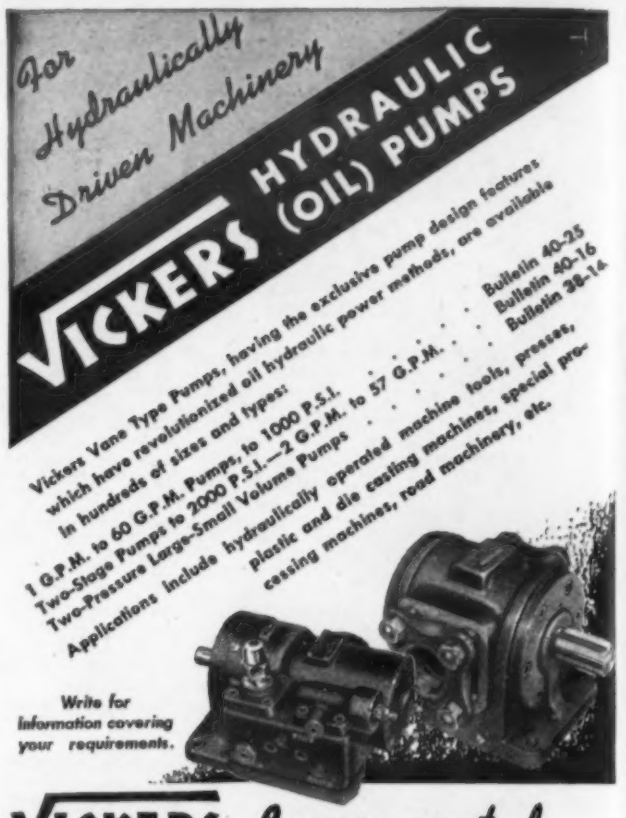

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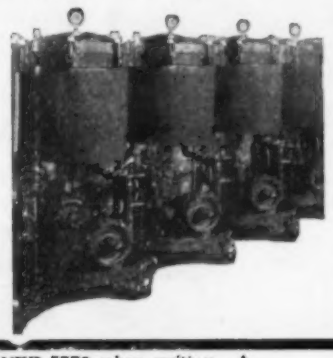
A GUARANTEE

of Superior FILTRATION

SPARKLER HORIZONTAL PLATE FILTERS

For complete clarification, renovation and purification of liquid commodities — oils, chemicals, synthetics, plating solutions, waxes, etc.—the Sparkler method of filtration offers the surest, quickest and most efficient results. Sparkler Filters are highly adaptable, sturdily constructed, use any filter medium. Made in over 30 models, portable or permanent installations. Capacities 50 to 10,000 G.P.H. Our engineers are at your service.

SPARKLER MFG. COMPANY
343 LAKE ST.
Mundelein, Ill.



SPARKLER HORIZONTAL PLATE FILTERS

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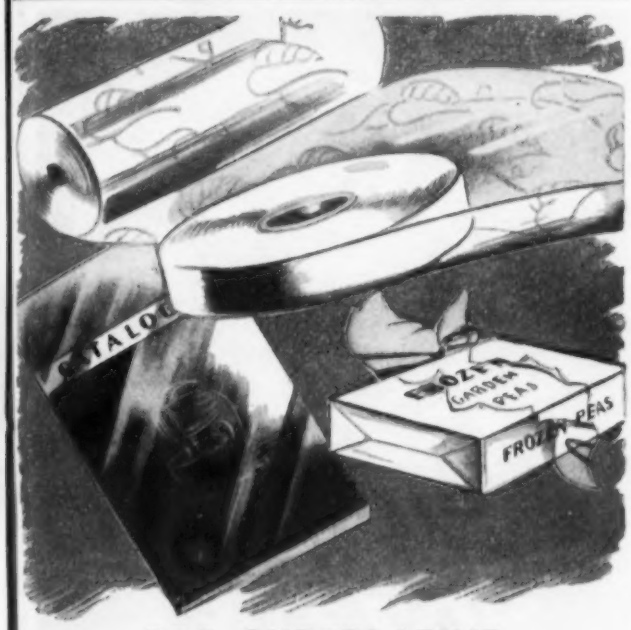

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ACTIVE IN WAR SERVICE, VINYLITE cast foils are comparative newcomers to the commercial field. They are extremely tough, durable films, available in both plasticized and unplasticized form. Though characteristics vary in different formulations, *all* VINYLITE cast foils have exceptional clarity and give unsurpassed protection. Chemically inert, and highly resistant to alkalies, oxidizing agents, alcohols, oils, and most inorganic acids, they are the best answer to many specific packaging problems. The frozen food industry, for example, will find them ideal wrappers—unaffected by low temperatures or water.

Plasticized VINYLITE cast foils possess the tear strength and elongation properties that assure extreme toughness and flexibility. The unplasticized foils have high tensile strength and are, of course, more rigid. Between them, they offer modern materials for widespread applications. They can be used as strong windows in boxes. Coated with adhesive, they make superior pressure-sensitive tapes. They are ideal as heat-sealing lamination films for the protection and reinforcement of paper and cloth.

Write Department 8-B for detailed information about VINYLITE cast foils and their possible use for your own special requirements.

BAKELITE CORPORATION
Unit of
Union Carbide and Carbon Corporation
UCC
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Vinylite
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PLASTICS

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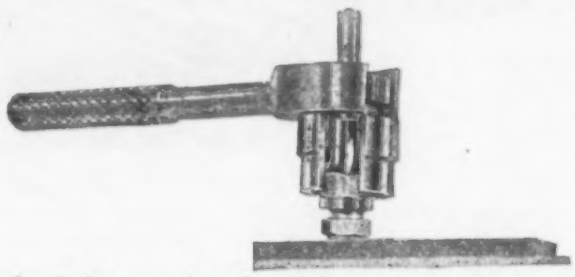
OPEN END SOCKET WRENCHES

This open end reversible ratchet wrench aids in running and tightening nuts on tubing, cables, shaft fittings or protruding studs where ordinary socket or ratchet wrenches cannot be



used. Socket encircles tube, shaft or cable and will ratchet continuously without interruption with only 7½-degree movement of handle. Wrenches are available in five sizes with tube openings of ⅜, ½, ⅝, 13/16 and 1⅜-inch and take sockets of various sizes. They can be furnished as sets consisting of wrench and five sockets. Special sizes can be made to order. Made by **Tubing Appliance Co.**, 3881 Victoria Ave., Los Angeles 43, Calif.

▲ Mention Item NED-5781 when writing ▲

ROCKING TYPE MARKER

Particularly suited to marking wooden cases or crates, corrugated shipping cartons, bales, flat or filled bags, drums, barrels and kegs, this line of Rockamarkers features improved design. Rubber imprinting surface makes clear, durable, legible impressions. Unit is operated by rocking it over ink pad and then over surface to be marked.

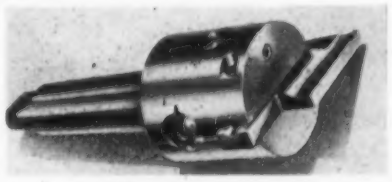
Rubber imprint surfaces can be composed of permanently mounted dies, interchangeable rubber type or combination of both. Permanent dies are mounted on layers of resilient sponge which are attached to metal base of marker. Interchangeable type are flange shaped with resilient sponge cushion.

Devices are available with one or two handles, depending upon length. Practically any size can be furnished. Made by **Adolph Gottscho, Inc.**, 187 Duane St., New York 13, N. Y.

▲ Mention Item NED-5782 when writing ▲

BORING TOOL

By eliminating chatter, this Behr boring bar is claimed to afford high production on vertical or horizontal lathes, screw machines and all types of precision boring machines. It is available with 2 and 3½-inch head diameters and features micrometer blade adjustment. Blades can be supplied in full range of sizes either tungsten carbide tipped or faced, or of high speed steel. Blades are quickly interchangeable by half-turn of release mechanism. Regular blades bore or face diameters ranging from 1¾ to 12½ inches. Small tool adapter permits boring holes as small as ¼-inch or less. Made by **Behr Products Co.**, Warren, Mich.



▲ Mention Item NED-5783 when writing ▲

Search no more . . . This all-metal one-piece "Flexloc" Stop and Lock Nut has every desirable feature. Just look them over:

- ✓ It is of one-piece construction
- ✓ It can be made of any of the conventional nut materials
- ✓ Every thread—including locking threads—takes its share of the load
- ✓ Its construction is especially advantageous for maximum strength and dependability of low and thin nuts
- ✓ It accommodates itself to a very wide range of thread tolerances
- ✓ It can be used over and over again without losing its ability to lock
- ✓ It is not affected by temperatures likely to be met within the field of Mechanical Engineering
- ✓ Being a "stop" nut, it stays locked in any position on a threaded member.

Sizes from No. 6 to 1" in diameter; millions in use. Write for Bulletin 582

The famous "Unbrako" Socket Screw Products are also made by us.

STANDARD PRESSED STEEL CO.
JENKINTOWN, PENNA., BOX 581
BOSTON • CHICAGO • DETROIT • INDIANAPOLIS • SAN FRANCISCO • ST LOUIS
OVER 40 YEARS IN BUSINESS

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IMMEDIATE DELIVERY

MACHINE VISES

with **REMOVABLE, HARDENED, GROUND JAWS**

PLAIN

Made with slotted sides for rigid clamping to table of any Milling or Pantograph Machine. Complete with extra V-block jaw T-slot nuts and studs.

MODEL 333-1: Jaws 2¾" wide, 1⅞" deep. Maximum opening 3⅛"—total height 3⅛". Length of base 7¼". Weight (boxed) 14 lbs. *Order today* **$10.40**

FLANGED

Adaptable to all types of machines having a horizontal work table. Complete with handle.

MODEL 5-F: Jaws 5 5/16" wide, 1 7/16" deep. Maximum opening 3"—total height 3 7/16". Weight (boxed) 49 lbs. *Order today*... **$44.00**

MODEL 7-F: (Identical to 5-F but larger) Jaws 7¼" wide, 1¾" deep. Maximum opening 4¼"—total height 3¾". Weight (boxed) 80 lbs. *Order today* ... **$100.00**

FLANGED SWIVEL

Size and construction identical to Flanged Type. Features SWIVEL BASE, attached to vise body, permitting use at any angle on horizontal plane.

MODEL 5-FS: Jaws 5 5/16" wide, 1 7/16" deep. Maximum opening 3"—total height 3 7/16". Weight (boxed) 62 lbs. *Order today*... **$64.00**

MODEL 7-FS: (Identical to 5-FS but larger) Jaws 7¼" wide, 1¾" deep. Maximum opening 4¼"—total height 3¾". Weight (boxed) 120 lbs. *Order today* **$123.00**

Mail Your Order Today to Insure Immediate Delivery

Watch GORTON
FOR 520 AIDS TO Low Cost Quality PRODUCTION
1910 RACINE STREET, RACINE, WISCONSIN, U. S. A.

▲ Mention Item NED-5785 when writing ▲

"Take it away" with

CM HERC-ALLOY
SLING CHAIN

Every Inswell electric-welded link in this CM Herc-Alloy steel sling chain personifies safety and lifting strength. From the white hot ingots in the nation's steel mills to the finished structural girders for our skyscrapers, CM Herc-Alloy Sling Chains have been doing a handling job that ranks them "tops" in industry . . . "tops" in dollar value, service life, maximum safety or any other yardstick of measuring.

Ask your mill supply distributor about the particular CM Herc-Alloy Sling Chain for your job and learn first hand the reasons why the top names in American industry have been using them for years.

COLUMBUS-McKINNON CHAIN CORP.
Affiliated with Chisholm-Moore Hoist Corp.
General Offices and Factories: 114 Fremont Avenue, Tonawanda, N. Y.
Sales Offices: New York, Chicago and Cleveland

▲ Mention Item NED-5786 when writing ▲

TWIN PRECISION

"NORMA-HOFFMANN"
BALL & ROLLER BEARINGS
for any
LOAD-SPEED *or* DUTY
ASK FOR CATALOG AND ENGINEERING COUNSEL
NORMA-HOFFMANN BEARINGS CORPORATION, STAMFORD, CONN. U.S.A.

▲ Mention Item NED-5787 when writing ▲

Why Take CHANCES?

. . . and why take chances with smoke, fumes or dust hazards either? Do as thousands do, wear a . . .

DUPOR No. 1
Miniature Dust Mask

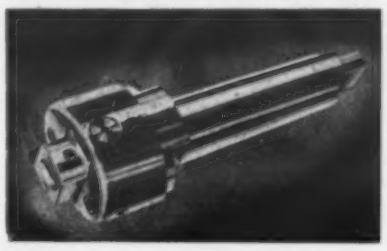
Miniature in size, weighs only 1 oz. Handy as a pair of glasses. Unique filter pad provides 9 sq. in. filter area. Ideal for nuisance dusts. Price $12 per dozen. Sample sent $1.00 postpaid.

Write for Catalog!

H. S. COVER
105 Chippewa Street South Bend, Indiana

▲ Mention Item NED-5788 when writing ▲

BORING CHUCK



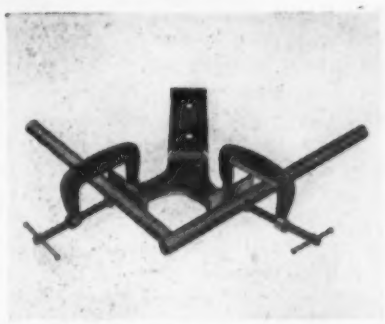
With this boring chuck, it is possible to center drill, bore hole or holes and then drill again without removing tool. Operator removes boring bar, brings chuck to dead center by moving adjusting screw back to end of travel and setting to zero, and then inserts drill chuck. After center drilling or open drilling to required size, drill chuck is removed and boring bar is inserted for additional boring operation. Holes can be bored to tolerance of 0.001 inch.

Tool consists of four hardened, ground and lapped parts. Alloy steel shank is hardened and drawn to Rockwell 45-50 hardness. It is ground with taper 0.0003-inch oversize to increase pressure when inserted in machine. Dovetail block is oil hardened steel, lapped into shank. Screw and dial are hardened and lapped into dovetail block.

Accessories consist of 9-inch boring bar which can be used 1½ to 8½ inches in length; boring adaptor for diameters up to 26 inches; right angle for sweeping bosses and flytooling and boring; 20-degree flytool adaptor; three end mill reducers; boring bar reducer, 3/4 to 5/8-inch diameter; and 5-inch boring bar. Made by **DeSoto Tool Co.**, 16 Sproat St., Detroit 1, Mich.

▲ Mention Item NED-5791 when writing ▲

WORK HOLDING CLAMP



Designed to hold parts squarely for welding, soldering, cementing, gluing, nailing, and other fastening operations, this Duo-Square jig or clamping device is available in three models. Straight type is for butt joining; Micro-justable, for joining at odd angles; and Square, illustrated, for right-angle joining. All three will be available in sizes necessary to meet wide range of requirements.

Device can be employed for joining tubes, bars, flats and other elements into perfect alignment or at selected angles. Work holders are machined accurately and have grooved faces for holding tubes, rounds and odd shapes. Jigs can be used in multiple for complex assemblies. Made by Duo-Square, **McFerron-Myers Products**, 1401-308 Euclid Ave. Cleveland 14, O.

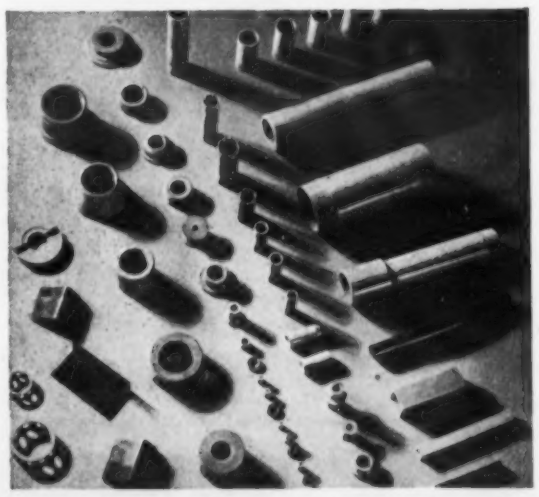
▲ Mention Item NED-5792 when writing ▲

DO YOU KNOW?

Special slide rule type calculators can be engineered to suit specifications for practically any engineering problem and are produced at relatively low cost for use as sales promotion or advertising pieces. Machined from seasoned wood, calculators provide means for solving problems involved in such operations as coding, determining freight rates, chemical processing, etc. Service offered by Lawrence Engineering Service, 524 N. Smith St., Peru, Ind.

▲ Mention Item NED-5793 when writing ▲

Can Paper Replace Metal?



Yes, phenol and resin impregnated papers are being molded, formed and laminated into products of great strength — from tubes as shown above to airplane sections. Technical paper is a versatile material — put our research laboratories to work on your ideas now. Write for free book, "INDUSTRIAL PAPERS."

CENTRAL PAPER COMPANY INC.
6 Lakeshore Drive • Muskegon, Michigan

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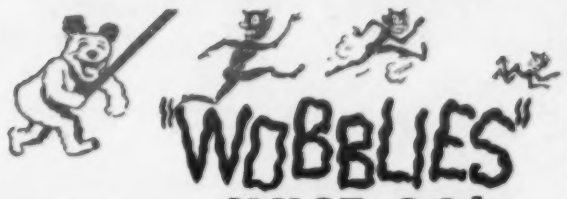
IT'S A POST-WAR CERTAINTY!



MUST GO!

NEW DEVELOPMENTS IN DY-NAMIC BALANCING NOW BEING UTILIZED IN INDUSTRIAL DESIGN

Now that Bear has simplified Dy-Namic Balancing and made it practical from both cost and production standpoints, designers are doing two things:

1 Rotating Parts are being designed to provide easy means for correction of DY-NAMIC UNBALANCE!

2 Performance Efficiency and Product Life is stepped up; Maintenance costs reduced; vibrations and vibratory noise minimized by the specification of BEAR DY-NAMIC BALANCING for all rotating parts!

WRITE FOR FREE BULLETIN. Address Bear Mfg. Co., Dept. NED Rock Island, Illinois.

BEAR
DY-NAMIC BALANCING MACHINES

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SPRACO NOZZLES

Write for NOZZLE CATALOG *to*
SPRAY ENGINEERING CO.
106 CENTRAL STREET • SOMERVILLE 45, MASS.

▲ Mention Item NED-5796 when writing ▲

Hammond of KALAMAZOO

Model VH-6
6"
Wet-n-Dri
VERTICAL
or
Horizontal

Wet-n-Dri
Abrasive Belt GRINDERS POLISHERS

Hammond offers a wide line of Wet-n-Dri Abrasive Belt Grinders and Polishers for low cost, high production grinding, polishing, deburring, brushing and buffing. Bench or Floor type machines for 1" to 10" width belts. Write for Bulletin!

Hammond Machinery Builders INC
1623 DOUGLAS AVENUE • KALAMAZOO 54, MICHIGAN
Eastern Branch: 71 West 23rd St., New York 10, New York

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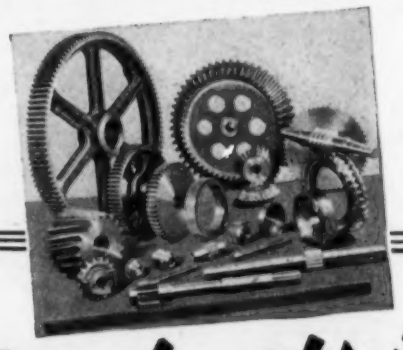
A Picture of PRECISION



"Industrial"

believes in pin point perfection. No gear or sprocket escapes the "camera eye" inspection at "Industrial"—check and double check for tooth profile, space pitch, hardness, etc. Small wonder that "Industrial" has grown by leaps and bounds!

Cut Gears • Sprockets • Racks

Send your blue prints and we'll go to work. A BIG Catalog and Engineering Manual is yours for the asking. Write for it on your firm stationery.

INDUSTRIAL GEAR MFG. CO.
4541 VAN BUREN STREET CHICAGO 24, ILLINOIS

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TWO FAMOUS NAMES
POOL 134 YEARS OF EXPERIENCE
to offer you the only complete materials handling service in America

from HEWITT: quality rubber products for industry for 85 years. JOB-ENGINEERED conveyor *belts* for half a century.

from ROBINS: the finest JOB-ENGINEERED materials handling *machinery* for 49 years.

now—from HEWITT and ROBINS the only complete JOB-ENGINEERED *materials handling service in America.*

HEWITT RUBBER *of Buffalo*

HEWITT RUBBER CORPORATION Buffalo, N. Y.
ROBINS CONVEYORS INCORPORATED Passaic, N. J.

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Peerless MARINE TYPE MOTORS AC & DC

PEERLESS motors for marine service are manufactured in AC and DC up to 3 horsepower. Frames are cast iron or of all-steel construction (no cast iron or aluminum parts).

Also DC generators and motor generator sets consisting of DC generators with either AC or DC driving motors.

Peerless DC marine type motor for close coupled direct connected pumps, ½ to 3 h. p.

Peerless fractional h. p. DC marine type drip-proof motor.

THE Peerless ELECTRIC COMPANY
WARREN, OHIO
Established 1893

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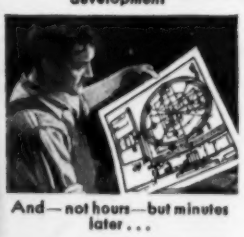
DIETZGEN DIRECTO

A momentary exposure to light . . .

A momentary contact development



And—not hours—but minutes later . . .

Photo-accurate copies are on way . . .

. . . to men in branch offices

. . . to men in field and shop

PHOTO-ACCURATE COPIES

made in minutes to save hours

A Directo Black on White print is a photo-accurate copy of any drawing, graph, map or other material typed, printed or written on one side of a sheet of paper. A Directo Print is shadow-printed from the original by momentary exposure under a light, and semi-dry developed by dampening one side of the print with a developing solution. Only simple equipment is needed . . . *no* darkroom, *no* running water, *no* plumbing, *no* trays, *no* troughs, *no* drying apparatus. The whole process is clean, simple, economical, and so easy a novice can grasp the fundamentals at once. Only seconds are required to produce a Directo Print ready for immediate use and each print costs only *pennies*.

These *positive* black *on* white prints that look just like the original subject, easily read, easily understood by people with no technical training, are saving hours of delay, hours of man and machine time in every size of factory and plant today. It will pay you to investigate these photo-accurate Black on White prints described fully in a free 52-page book you can get from your Dietzgen dealer or any Dietzgen office listed below.

EUGENE DIETZGEN CO.
Chicago • New York • San Francisco • New Orleans
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Philadelphia • Washington
Milwaukee
Dealers in All Principal Cities

DIRECTO
DIRECT POSITIVE COPIES

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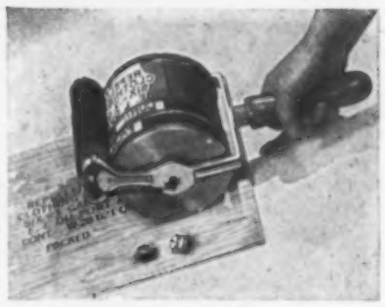
SELF-INKING MARKER



Constructed with interchangeable type arrangement, improved Rolamarker self-inking marker can be used for imprinting where dates, varieties, sizes, weights, contract numbers or other information may change. Markers are made with interchangeable channels to receive removable rubber type or with permanent dies and interchangeable type channel combinations. Illustrated model makes single impression. When it is raised from surface on which mark was made, it returns to its starting position, ready for next impression. Slotted type can be supplied to make continuous or repeated imprints.

Rubber type has sponge resilient rubber base. It is held in position by flanges and adjustable metal retainers at end of each line of type in channel. Markers imprint any area from 2⅛ x 5 inches to 4 x 12 inches or 5 x 10 inches on any surface. Made by **Adolph Gottscho, Inc.**, 187 Duane St., New York 13, N. Y.

▲ Mention Item NED-5800 when writing ▲

CONVERTIBLE TRUCKS

Equipped with deep stake pockets at each corner, trucks can be converted from one type of load carrier to suit other requirements by addition of standard accessories. To basic floor truck are added accessories which make box, leaf, shelf, rod and tube truck or any one of types shown in illustration.

Basic truck has deep section channels formed in one piece with deck to provide strong steel chassis capable of carrying up to 5000-pound loads. Four additional channel cross members reinforce deck.

Undercarriage is designed so that six caster and wheel arrangements can be adopted for various conditions. Basic running gear consists of 12-inch bull wheels and 6-inch caster wheels mounted on roller bearings and hardened shafts. Rounded corners and splinterproof deck are furnished for safety and mastic material applied to under body of truck aids in sound deadening. Made by **Market Forge Co.**, 54 Garvey St., Everett 49, Mass.

▲ Mention Item NED-5801 when writing ▲

DO YOU KNOW?

Several types of interior finishes containing DDT for control of most insect pests in industrial and commercial establishments are claimed to retain their effectiveness for at least a year. Insects have only to crawl across DDT painted surface to pick up microscopic quantity necessary to kill them. Finishes will not be released to consumers until toxicological and service tests have proved their suitability for household and institutional use. Developed by E. I. du Pont de Nemours & Co., Wilmington 98, Del.

▲ Mention Item NED-5802 when writing ▲

..tagged for the big jobs!

HEXACON ELECTRIC SOLDERING IRONS

Follow the leaders — for rugged, heavy duty work or for light intricate work — HEXACON is the answer. One reason is "Balanced Heat" which minimizes element burn-outs and tip replacements. Another, is lightweight. Literature is available describing the complete HEXACON line — screw tips and plug tips, from 40 to 700 watts.

HEXACON ELECTRIC CO.
145 W. Clay Avenue
Roselle Park, N. J.

HIGH-QUALITY LONG-LASTING SOLDERING IRONS
HEXACON

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WATERVLIET PAPER CO. SOLVES FPM PROBLEMS WITH HELP OF MICROMAX SPEED RECORDER

Average speed of paper-coating machines has increased as much as 25 per cent in Watervliet Paper Co.'s plant since that firm began to use a Micromax Speed Recorder to collect facts about feet-per-minute; machine production has further improved because down time is reduced.

Catalog N-27, "Micromax Speed Recorders", will be sent on request.

LEEDS & NORTHRUP COMPANY, 4985 STENTON AVE., PHILA. 44, PA.
LEEDS & NORTHRUP
MEASURING INSTRUMENTS · TELEMETERS · AUTOMATIC CONTROLS · HEAT-TREATING FURNACES

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THIS BOOK

Shows Ways to Insure Dimensional Quality and Cut Inspection Costs

Free if requested on your business letterhead.

Now is the time when good managers "clean house". Much that was traditional has given way to definitely progressive methods. This book illustrates many of the thousands of *new* ways dimensions can be controlled more precisely, more easily and more economically. Indicating Gages are shown in all dimensional classifications for quick reference. It is an instructive book from which you can learn new gaging methods. Write for a copy.

FEDERAL PRODUCTS CORPORATION
PROVIDENCE 1, RHODE ISLAND

★ ★ ★ ★ FEDERAL ★ ★ ★ ★
PRECISION MEASURING INSTRUMENTS

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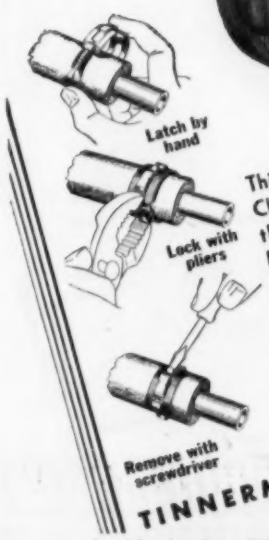
THE New TINNERMAN HOSE CLAMP



This one-piece, ratchet type Hose Clamp is easily latched by hand, then quickly locked with pliers. Removed by prying locking tongue out of ratchet teeth with screwdriver. It weighs less, has a lower profile, exerts uniform pressure, and may be used over and over again. Approved by Army and Navy Air Forces. Sizes from ½" O. D. up. Write for details.

TINNERMAN PRODUCTS, INC.
2044 Fulton Road, Cleveland 13, Ohio

▲ Mention Item NED-5806 when writing ▲

NEW NOBUR TOOL SPEEDS BURRING OF HOLES!

REMOVES BURRS FROM INSIDE AND OUTSIDE EDGES IN ONE OPERATION!

The new NOBUR TOOL eliminates burring as a bench operation and makes burring a fast, easy machine operation. It can be handled by anyone or any machine with complete safety. All burrs are instantly removed, smoothly and accurately, and burring can be done as fast as parts can be handled by the operator.

New Nobur tool releases vitally needed manpower for other war work, cuts burring time to minimum, increases production of finished parts and eliminates the waste of vital materials.

Write NOW for complete information on burring this faster, better way!

NOBUR MANUFACTURING CO.
910 North Orange Drive, Los Angeles, Calif.

NO BUR TOOLS

NEW NOBUR TOOL MAKES BURRING A MACHINE OPERATION!

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P.A. STURTEVANT CO.
ADDISON QUALITY ILLINOIS

WRITE FOR BULLETIN No. SW-22

THE WORLD'S LARGEST MANUFACTURERS OF TORQUE WRENCHES

▲ Mention Item **NED-5808** when writing ▲

METAL Stampings DUPLICATED WITHOUT DIES

If you desire to save time and critical materials on production of metal stampings or other small parts, then the DI-ACRO System of "Metal Duplicating Without Dies" merits your consideration. It is based on the rapid and accurate production of formed parts with DI-ACRO Shears, Brakes and Benders. All duplicated work is accurate to .001". These precision machines are adaptable to an endless variety of work, and ideally suited for use by girl operators. For short runs your parts are processed in a matter of hours instead of waiting weeks for dies.

Send for This Catalog
"DIE-LESS DUPLICATING"

It illustrates many stampings or parts made without dies, gives full details on DI-ACRO machines and shows how they may readily be adapted for various applications. Request your copy now.

"DIE-LESS" DUPLICATING

← Pronounced "DIE-ACK-RO"

DI-ACRO PRECISION MACHINES DIE-LESS DUPLICATING

O'NEIL-IRWIN MFG. CO.
354 EIGHTH AVE. SO., MINNEAPOLIS 15, MINN.

▲ Mention Item **NED-5809** when writing ▲

SOFT HAMMER FACES

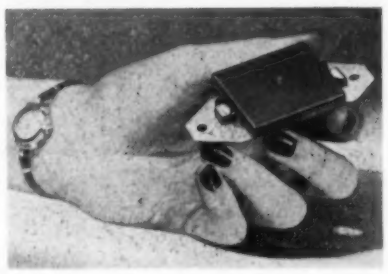
Claimed to demonstrate many advantages over other materials commonly used for soft-face hammers, Basa faces are available for use on Basa replaceable face hammers. Material will not chip, is unaffected by solvents, is noninflammable and nonexplosive. It will not mushroom, shrink, expand or come apart. Because it does not rebound, worker fatigue is minimized. User is protected from shocks. Hammers will not mar surfaces which they strike.

Hammers equipped with these faces are claimed to be adapted to practically all soft-face hammer uses ranging from heavy foundry work to use on light and soft metals. They can be used until worn completely down to head of hammer and replacement is easily and quickly performed. Made by **Greene, Tweed & Co.**, 4377 Bronx Blvd., New York 66, N. Y.

▲ Mention Item **NED-5810** when writing ▲

VIBRATION DAMPENING MOUNT

Handling loads weighing as little as 1 pound, light duty Rexon mounts eliminate disturbing vibration and noise from small motors, typewriters, business machines, appliances, small power tools etc. or isolate delicate instruments, tables and desks from external vibration.

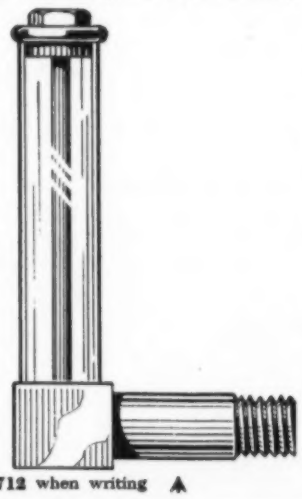


Vibration mounts combine high vibration dampening properties of rubber loaded-in shear with safety, durability and ease of installation of simple compression mount. No overloading of shear elements is possible. Five sizes available handle loads from 1 to 200 pounds. Made by **Hamilton Kent Mfg. Co.**, Twin Lakes Dr., Kent, O.

▲ Mention Item **NED-5811** when writing ▲

OIL GAGES

Available in complete range of sizes and styles, this line of oil gages features unbreakable transparent plastic sight supported by heavy central stem and top cap. Assembly is locked securely with independent nut which compresses cork gasket to eliminate possibility of leakage. Gages can be taken apart for cleaning and can be installed where space is limited. By removing transparent sight, base can be screwed into position in space which would not permit installation of one-piece gage. Standard sizes range from 1¼ to 5 inches with sight diameters of ½ to 1 inch. Special height and length gages in elbow or straight types can be furnished to specifications. Made by **Oil-Rite Corp.**, 3464 S. Thirteenth St., Milwaukee 7, Wis.



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NOW! This New Low-Cost Aid For WELDING

P&H WELDING POSITIONERS

Cost records prove it! The P&H WP-2 Welding Positioner speeds up welding — cuts costs on all kinds of jobs. It's the most versatile — the easiest to operate positioner — is available now at a cost that will surprise you! Get all the facts . . . see how the P&H WP-2 will fit in your welding picture — to save all along the line.

- 2,500-pound capacity
- Surprisingly low cost
- Versatile — handles all kinds of jobs
- Simple and easy to operate
- Manual, handwheel for power table turning
- Easy-working telescopic elevation
- Hydraulic power table tilting
- Large table area — with handy slots
- No exposed gearing
- Portable or column-in-floor mounting
- Plus many other time, money-saving features

General Offices:
455 West National Avenue, Milwaukee 14, Wis.

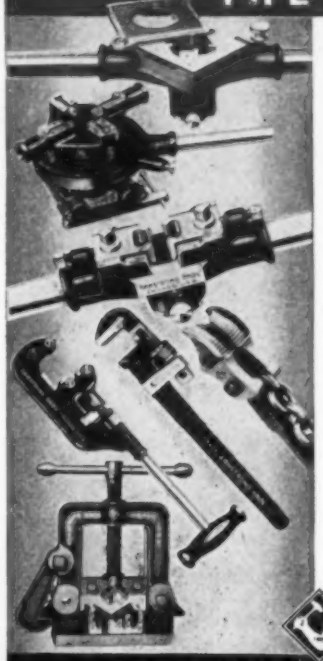
Model WP-2 — 2500-pound capacity.

Write for free bulletin P2-1. Other models up to 36,000 pounds capacity.

HARNISCHFEGER CORPORATION

▲ Mention Item **NED-5813** when writing ▲

Look for the Arm-and-Hammer
ARMSTRONG BROS. PIPE TOOLS



The "ARMSTRONG BROS." Line of Pipe Tools is the most extensive manufactured, including:

Adjustable Dies and Stocks
Solid Dies and Stocks
Receding Threaders and Chasers
Hinged Open-Side and Chain Pipe Vises
"Drop Forged," "Combination," "Saunders Type" and "Barnes Type" Pipe Cutters and Knife Blade Cutter Wheels
Drop Forge Pipe Wrenches, Chain Wrenches and Chain Tongs

Ratchet Pipe Reamers, etc.
Each is an improved tool—a handier tool with drop forged, hardened or alloy steel parts wherever they will add strength, balance or tool life.

Write for Catalog C-39a

ARMSTRONG BROS. TOOL CO.
"The Tool Holder People"
307 N. FRANCISCO AVE. CHICAGO, U.S.A.
Eastern Warehouse & Sales: 199 Lafayette St., New York

▲ Mention Item **NED-5814** when writing ▲

THE **RIGHT MASK** FOR YOUR **GASEOUS HAZARDS**

The **M·S·A INDUSTRIAL GAS MASK**

Protects against individual industrial gases or combinations of gases and vapors (carbon monoxide and gases containing it excepted).

The M.S.A. Industrial Gas Mask with the famous All-Vision Facepiece provides safety for the wearer against gas emergencies—with a broad selection of canisters for protection against practically all industrial gases. Unobstructed vision through wide area lenses, better wearing ease, unhampered working freedom are outstanding features.

WRITE for Bulletin ED-7, containing descriptive details.

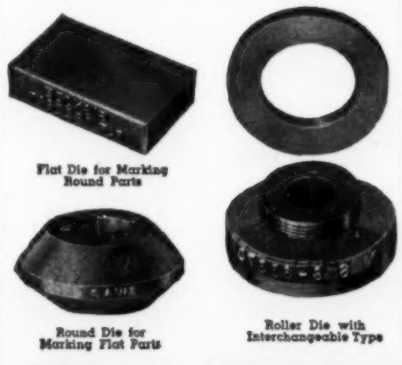
MINE SAFETY APPLIANCES CO.
BRADDOCK, THOMAS AND MEADE STREETS
PITTSBURGH, PENNSYLVANIA

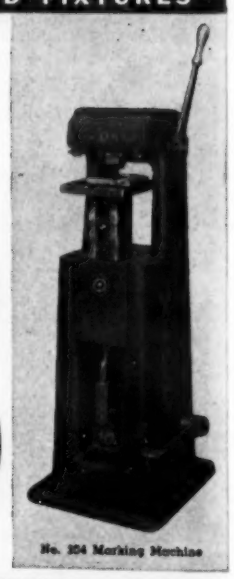
▲ Mention Item **NED-5815** when writing ▲

MARKING MACHINES
STEEL DIES—TYPE AND FIXTURES

Matthews marking machines, dies, type and fixtures supplied for marking names, codes, trade names, trade marks, patent numbers, etc., on all types of industrial parts or products.

Write for literature




No. 104 Marking Machine

JAS. H. MATTHEWS & CO.
3945 FORBES STREET PITTSBURGH 13, PA.
BRANCH PLANTS
NEW YORK, BOSTON, CHICAGO, PHILADELPHIA, NEWARK, SYRACUSE
District Sales Offices: Cleveland, Hartford, Birmingham

▲ Mention Item **NED-5816** when writing ▲

BLAW-KNOX BUCKETS

Write Bucket Headquarters

Whatever the job, Blaw-Knox provides a bucket that gets more work done with less crane time . . . Over 100 types and sizes! Write for Catalog 1757.

BLAW-KNOX DIVISION of Blaw-Knox Company
2068 Farmers Bank Bldg., Pittsburgh, Pa.

▲ Mention Item NED-5817 when writing ▲

FILMONIZE guards brake drums and other mechanical parts against deterioration from dirt, rust and fumes.

FILMONIZE withstands hot temperatures. Use it to protect propeller surfaces while screws are soldered.

FILMONIZE speeds buffing—assures a neater job. Just tape the end of one surface while buffing the other.

FILMONIZE holds masking in place—and helps shield metal sheets against spatter marks during spot-welding.

Tape . . . your most versatile worker

FILMONIZE Tapes do so many important things for so many important industries — that we can't begin to tell you about them all.

But we can tell you that FILMONIZE saves time and money wherever it's used.

Try FILMONIZE on troublesome, time-consuming operations in your plant. Or, better yet, send for our Tape Engineer—whose business it is to show you how to use tape most efficiently — and to design special tapes for particularly intricate jobs.

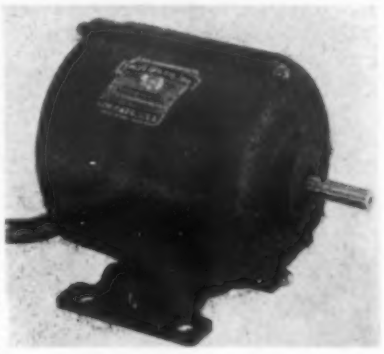
Meantime, your local distributor will show you the FILMONIZE line: Transparent Tapes, Colored and Multi-Colored Tapes, Printed Tapes, Riveting Tapes, Identifying Tapes, Splicing Tapes, Acetate Fibre Tapes, Metal Tapes, Specialty Tapes, Packaging Tapes. Widths of ½" to 18" throughout.

filmonize
TRADE-MARK REG.
SELF-SEALING TAPES

INTERNATIONAL PLASTIC CORPORATION
Morristown New Jersey

▲ Mention Item NED-5818 when writing ▲

SMALL CAPACITOR MOTOR

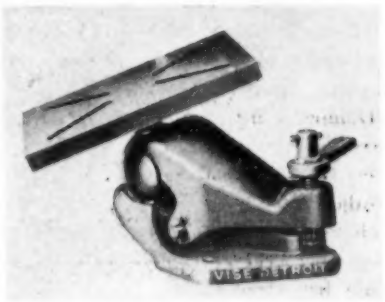


Produced in ratings from 1/25 to 1/70-horsepower, model SM-30 capacitor - start induction motors can be wound for standard power supply voltages up to 460 volts. They are wound for speeds of 3350, 1725 and 1150 revolutions per minute in capacitor and split phase types, or 3100 and 1550 revolutions per minute as shaded pole motors. They can be made with speed reduction gearing to suit application needs. Precision ball bearing or oilless sleeve bearing constructions are available.

Though built regularly as ventilated models, enclosed and explosionproof types are available. Motors will operate vertically or in any mounting position when provided with proper thrust bearings. Rigid base, flexible base, flange, clamp or integral type mountings can be furnished. Made by **Small Motors, Inc.**, Dept. 79A, 1308 Elston Ave., Chicago 22, Ill.

▲ Mention Item NED-5819 when writing ▲

WORK POSITIONING FIXTURE

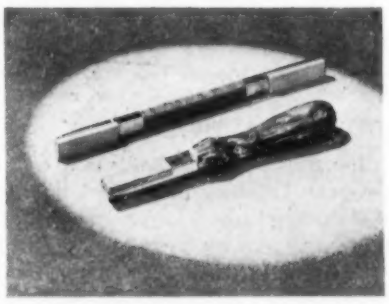


Positioning or tilting of work during assembly or other operations can be accomplished through use of model S Metro positioner (Item NED-797, Feb. '44). It permits any angle of tilt to be maintained and can be adjusted quickly and easily.

Vise or fixture is bolted or clamped to plate which is integral with ball turning in socket formed by two clamping jaws. Jaws are shaped and pivoted so that any required tension or grip can be obtained on ball. Holding pressure is supplied by heavy tension spring, pressure of which is adjusted by quick-operating screw. Made by **Metro-Vise Co.**, 229 Stephenson Bldg., Detroit 2, Mich.

▲ Mention Item NED-5820 when writing ▲

DIAMOND HAND HONES



Two pocket - size vitrified diamond hand hones are designed for touching up carbide tools to assure efficient cutting and prolonged tool life. Diamond sections measuring 7/16-inch wide by 1 and 1½ inches long have 1/16 - inch diamond depth. Plastic handles and leather pocket cases are standard. One model has hone at both ends and other at one end only. Made by **Bay State Abrasive Products Co.**, Westboro, Mass.

▲ Mention Item NED-5821 when writing ▲

4-TON CAPACITY BENCH PUNCH PRESS

STAMPS, CRIMPS, MARKS, PUNCHES, RIVETS, FORMS—HANDLES MANY SPECIAL OPERATIONS

benchmaster—known for quality bench machine tools—aids high speed production with a versatile inclinable 4-ton capacity bench punch press.

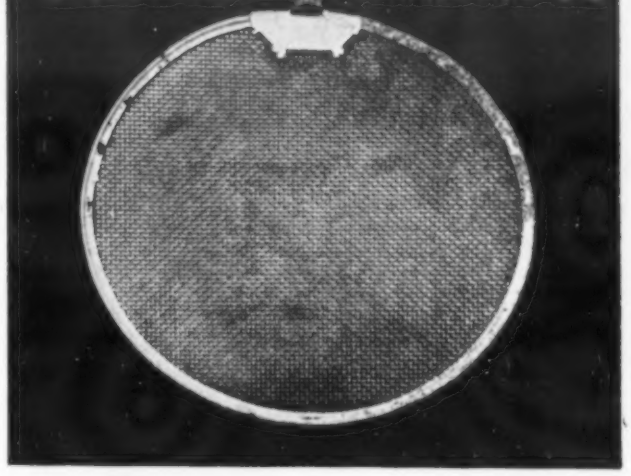
For Light Sheet Metal, Plastics, Etc.

285 strokes per minute • Die Space: 4¾" when Ram "Up" • Ram Adjustment: 1 inch • Bolster Plate: 6"x 8" • Height: 25" • Weight: 185 lbs. • Motor: ⅓ H.P. • $127.50 F. O. B. Factory (less motor)

benchmaster tools — manufacturing company
2952 w. pico, los angeles 6, cal.

▲ Mention Item NED-5822 when writing ▲

FILTER SCREENS
Look to CAMBRIDGE



This is one of the many standard designs in Cambridge Filter Screens. Available in all meshes, wire diameters, metals, shapes and sizes to fill every filtering need. Quotations and samples readily furnished. Send for FREE CATALOG.

THE CAMBRIDGE WIRE CLOTH CO.
CAMBRIDGE 13, MARYLAND

▲ Mention Item NED-5823 when writing ▲

A HANDY POCKET-SIZE CATALOG OF BLAST CLEANING AND DUST CONTROL EQUIPMENT

QUALITY PC PRODUCT

PANGBORN CONDENSED CATALOG

SEND FOR YOUR COPY NOW

The complete Pangborn Line of Blast Cleaning and Dust Control Equipment and Accessories is covered in this handy Condensed Catalog. It presents a digest of the material from our individual bulletins,—vital information at your finger tips—in a handy, compact form. Use it for quick reference to specific equipment and then send for the designated bulletin. Write for your copy today—you may need it tomorrow!

PANGBORN
WORLD'S LARGEST MANUFACTURERS OF BLAST CLEANING AND DUST COLLECTING EQUIPMENT
PANGBORN CORPORATION • • HAGERSTOWN, MD.

▲ Mention Item NED-5824 when writing ▲

BLACK DIAMOND
PRECISION DRILL GRINDER

ONLY PERFECTLY GROUND SMALL DRILLS CAN CUT PERFECTLY ROUND SMALL HOLES

• KEEP THOSE SMALL DRILLS SHARP •

ONE Black Diamond Drill Grinder, in any average plant, will meet all production demands for accurately ground Small Gauge and Fractional Drills.

With this machine, any apprentice becomes a skilled operator, he produces quantities of sharp drills, ground to perfection, with true centers, lips of uniform length, correct angle and proper clearance for accurate drilling.

The Black Diamond cuts small drill grinding costs to a new low . . . saves expensive drills . . . reduces breakage . . . releases skilled labor for more important work . . . quickly pays for itself.

The Web Thinning attachment efficiently cares for Notched, Colton, or Crank Shaft Points.

SAWS BLACK DIAMOND TOOLS

If you use small drills in quantities, singly or in gangs—you should have a motorized Black Diamond Drill Grinder on the job. Write for full details.

BLACK DIAMOND SAW & MACHINE WORKS, INC.
NATICK, MASSACHUSETTS

▲ Mention Item NED-5825 when writing ▲

SPERRY
HYDRAULIC CONTROLS
for
INDUSTRIAL DESIGN

Sperry Hydraulic Controls have been used in thousands of industrial applications. These easily installed, simply operated, accurate controls have eased the problems of both operators and designers.

Whether you operate or design machine tools, engines, continuous vulcanizing machines, or presses—Sperry's versatile controls stand ready to aid you. Skilled engineers and technical data await your inquiry.

EASY INSTALLATION
ACCURATE
DEPENDABLE

SPERRY

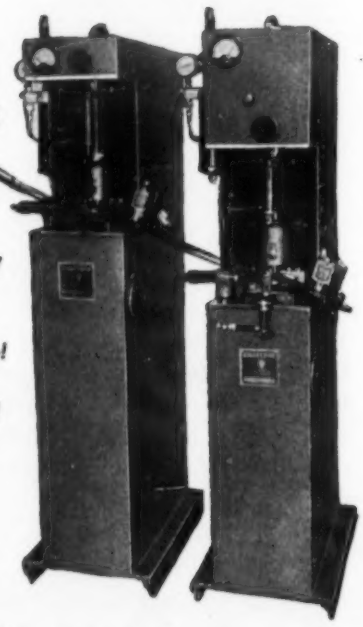
SPERRY PRODUCTS, INC.
HOBOKEN, N. J. CHICAGO, ILL.

send for bulletin 78

▲ Mention Item NED-5826 when writing ▲

THESE
Automatic Inspection
MACHINES

ARE SAVING
ONE
MANUFACTURER
$108.00
per shift per day!



AND—*inspecting 60 parts per minute!*
AND—*eliminating the human element!*
AND—*multiplying inspection rate!*
AND—*increasing accuracy!*
AND—*sorting automatically!*

These Automatic Photoelectric Inspection Machines, known as Hurletrons, are gaging an inside dimension to an accuracy of .0001 while the part is spinning at a prescribed r.p.m., and sorting good from bad pieces . . . entirely AUTOMATICALLY!

Actual, direct savings in this plant using these Hurletrons make this equipment SELF-LIQUIDATING in less than 60 one-shift work days!

Do you have an inspection or control problem? Do you need to check taper, concentricity, eccentricity, over-all length, contour, outside or inside diameter, or turbidity of production parts? Do you need production inspection of electrical characteristics such as resistance, voltage, amperage or capacitance? The answer to these problems may be found in Hurletrons built to perform these inspections *automatically!*

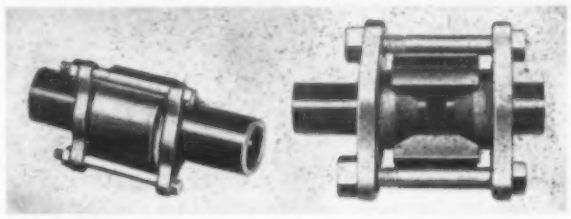
Let us suggest automatic solutions to your inspection problems *now.* Our engineers will gladly consult with you and submit unbiased recommendations without obligation.

HURLETRON
Automatic Electronic
INSPECTION • CONTROL • ASSEMBLY
ELECTRIC EYE EQUIPMENT COMPANY
7 W. Fairchild Street, Danville, Illinois

▲ Mention Item NED-5827 when writing ▲

PIPE CONNECTIONS

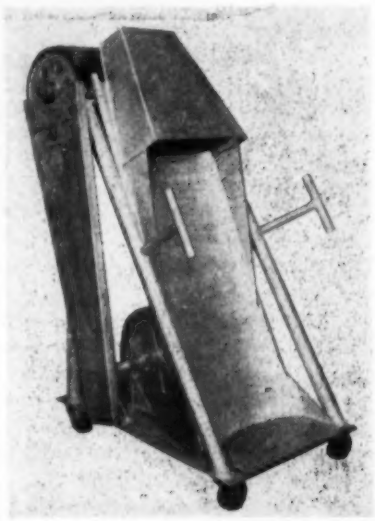
Designed for use in chemical and process industries, Karbate pipe connections of impervious carbon or graphite possess high mechanical strength and resistance to thermal shock and cor-



rosive liquids and gases. Eliminating use of cements in joining lengths of pipe, type FC flexible coupling is suited to field installations or any pipe run connecting one phase of process with another. It permits sufficient pipe movement to meet all conditions encountered in average plant. Type V flanged connections have thick small diameter collars to provide construction which can be used with companion flanges of almost any design or material. Separate cast iron split flanges permit easy pipe alignment and installation. Type V nozzles and type SC slotted couplers are usually factory installed and are recommended for use on tanks, towers, heat exchangers and similar equipment. Made by **National Carbon Co.**, 30 E. 42nd St., New York 17, N. Y.

▲ Mention Item NED-5828 when writing ▲

BAG HANDLING UNIT



Operated by ¼-horsepower electric motor, Ritchie Bag Dumper lifts and empties bags weighing up to 350 pounds. Adjustable height chute at front fits narrow openings and funnels bags' contents into vat or machine without spilling. Two spikes catch and hold bag while contents are being dumped. Chute handles 24-inch wide bag.

Automatic shut-off switch stops motor at top and bottom positions of lift. As added safety feature, clutch arrangement disengages motor if downward return of chute is obstructed. Upward lift requires 10 seconds and lowering takes 8 seconds. Made by **ASCO Mfg. Co.**, 601 S. Anderson St., Los Angeles 23, Calif.

▲ Mention Item NED-5829 when writing ▲

DO YOU KNOW?

Installation and administration of an industrial plant vision program is covered in 2½-week intensive course. Visual skills, skill testing, visual job analysis, employee and management relations, visual problems, standard practice and other related subjects are covered thoroughly. Co-operation of Bausch & Lomb Optical Co., ophthalmological and optometric professions has broadened program. Offered by Industrial Vision Institute, Purdue University, West Lafayette, Ind.

▲ Mention Item NED-5830 when writing ▲

DECORA JIFFY SWIVEL COUPLER

(*Shown at left:*)
Female plug and female body. Available also in male. In ordering designate which you require.

Plug and Body . . . complete $1.00
(Extra Plugs . . . each .25)

Wherever air hoses supply air tools the useful Decora Swivel Coupler will save time and bother. The change from one tool to another is easy, sure and quick. Automatic valve makes air instantly available when the plug is seated, stops the flow when the plug is removed. Swivel action avoids hose kinks and snarls on long lengths. Standard pipe thread used. Oil resistant valve ring replaceable with Schrader chuck washers, obtainable everywhere. Available in ¼" size only. *Send for new catalog sheet* with complete information on couplers, blow guns, hose fittings and engine cleaners. Available from stock on AA priorities.

(*Distributorships open in several areas*)

See your DECORA Dealer or write

DECORA MANUFACTURING CO., INC.
Factory Office 1819 FIFTH STREET, BERKELEY 2, CALIFORNIA
Distributed by
W. I. Martin & Co., 711 S. Dearborn Street, Chicago, Illinois
Bauer Factory Supply, 985 Clinton Ave., Irvington 11, New Jersey
The Ellicott Co., 2721 Greenmount Ave., Baltimore 18, Md.

▲ Mention Item NED-5831 when writing ▲

25 TONS OF PULLING POWER FOR HEAVY MACHINERY MAINTENANCE

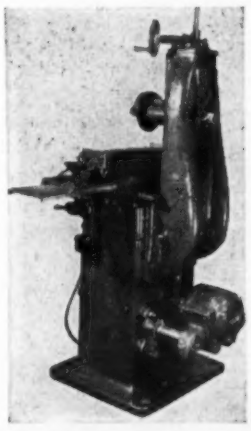
Here's plenty of power for pulling gears and pulleys surely and safely. Tested on the job in industrial plants, oil refineries, etc., it has proved a practical universal puller of unusual strength and capacity. Handles gears and pulley up to 20" diameter, with reach of 20", pulling power up to 20 tons. Quickly adaptable as a 3-jaw or 2-jaw puller.

Eliminate costly breakage by using this powerful puller. Write for catalog describing full line of pullers and other tools for plant maintenance.

Snap-on Tools
THE CHOICE OF BETTER MECHANICS
SNAP-ON TOOLS CORPORATION
8042-J 28th Avenue
Kenosha, Wisconsin

▲ Mention Item NED-5832 when writing ▲

TO IMPROVE PERFORMANCE . . .
equip your surface grinders with
MASTERDRIVE
. . . it's simple . . . it's complete



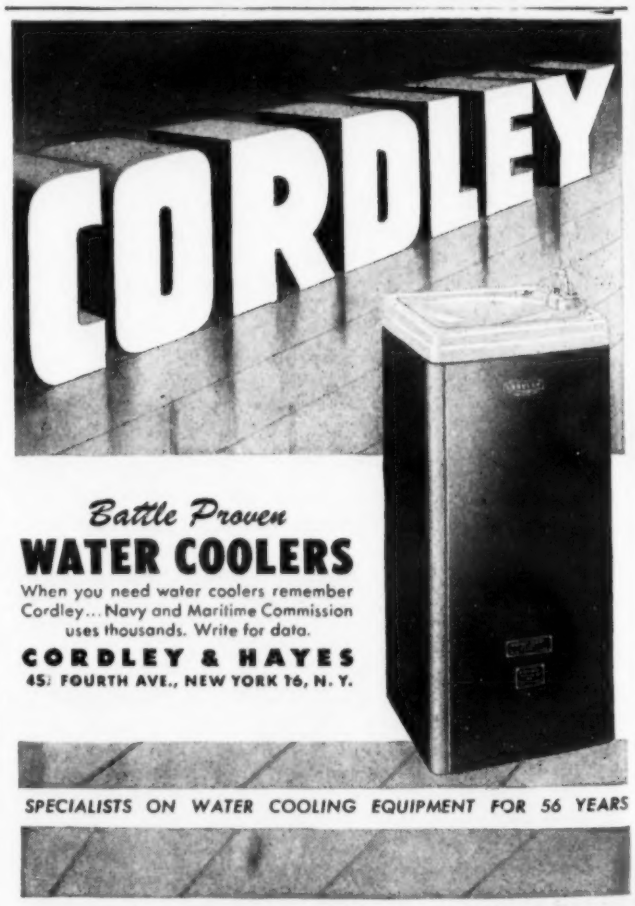
By eliminating complicated pulley arrangements and costly lineshaft maintenance, Masterdrives power surface grinders for maximum efficiency and economy.

Masterdrives for surface grinders are engineered as complete units ready to install. No machine work needed. Proper belt tension is maintained at all times.

For information on Masterdrive for your grinders, simply state the make. Masterdrives are supplied in 750 specifications for practically every machine tool drive requirement. Phone, wire, or send Quickmail Coupon No. 11 for details today.

MASTER
THE MASTER ELECTRIC COMPANY
INDUSTRIAL EQUIPMENT DIV. — DAYTON, O.

▲ Mention Item NED-5833 when writing ▲



Battle Proven
WATER COOLERS
When you need water coolers remember Cordley... Navy and Maritime Commission uses thousands. Write for data.
CORDLEY & HAYES
451 FOURTH AVE., NEW YORK 16, N. Y.

SPECIALISTS ON WATER COOLING EQUIPMENT FOR 56 YEARS

▲ Mention Item NED-5834 when writing ▲

● Weatherhead Drain Cocks are now available in all sizes to fit any type of outlet. Complete line including Drain, Shut-off, Bib, Plug, S.A.E. and Pipe construction. Sharp thread and easy turning features of all. For literature or information write or phone any Weatherhead branch office.

Look Ahead with **Weatherhead**

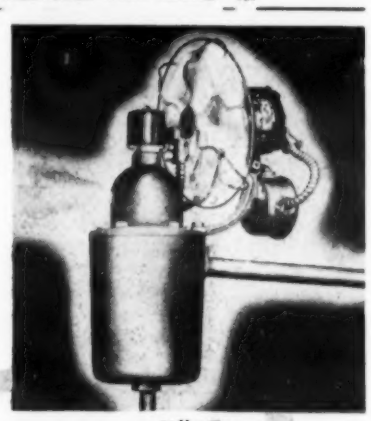
The Weatherhead Company, Cleveland 8, Ohio

Offices: New York · Philadelphia · Detroit · Chicago · St. Louis · Los Angeles

▲ Mention Item NED-5835 when writing ▲

RAISE RELATIVE HUMIDITY

. . . with **ARMSTRONG** *Steam Type* **HUMIDIFIERS**



Here's what Armstrong humidification can do for you:

- Maintain relative humidity automatically within very close limits.
- Operate for less than one cent per 24 hour day per thousand cu. ft. of space humidified.
- Reduce static accumulations, and attendant fire and explosion hazards.
- Improve dust control.
- Enhance human health and comfort.
- Protect moisture absorbing materials from drying out and loss of quality.
- Ask for Bulletin 158 for complete data and prices.

Armstrong Machine Works
919 Maple Street Three Rivers, Michigan

ARMSTRONG *Steam Type* **HUMIDIFIERS**

▲ Mention Item NED-5836 when writing ▲

WHY *CLECO CHIPPERS* ARE BETTER . . .

1. THROTTLE VALVE graduated for easy starting.
2. RENEWABLE BUSHING saves handle if handle bushing should break.
3. DROP FORGED ALLOY STEEL HANDLE provides comfortable grip.
4. SIMPLE WAFER VALVE is durable, powerful and economical.
5. EXHAUST CLIP can be turned to direct exhaust away from the operator.
6. CYLINDER, or barrel, is made of carefully selected alloy steel, and is expertly heat treated, ground to accurate size, and finally honed.
7. THROTTLE PLUNGER operated in a renewable bushing.
8. RENEWABLE TOOL NOSE for standard round or hexagon shank chisels.
9. LOCKING RING with teeth that mesh with teeth on handle and keys that engage keyways on barrel.

47 sizes and styles. Write for Catalog.

THE CLEVELAND PNEUMATIC TOOL CO.
3781 East 77th Street ★ CLEVELAND 5, OHIO
BRANCH OFFICES IN ALL PRINCIPAL CITIES

▲ Mention Item NED-5837 when writing ▲

COMMUNICATING SYSTEM

Two-way conversation, paging or sound casting can be performed with this type S 415 self-contained, desk console communication system. System permits master-to-master or master-to-remote operation with any number of stations up to 40. Pushbutton station selection is provided and master key allows blanket calls to all stations. Buttons are self-locking, arranged in banks of ten, with release button for each bank.

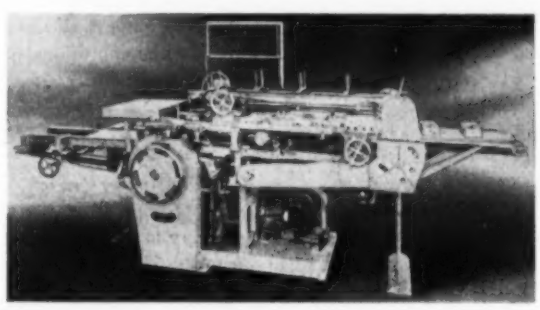
Master unit illustrated delivers 15 watts, is housed in walnut cabinet and has pilot light, power switch, amplifier and loudspeaker-microphone as integral elements. Booster amplification can be furnished for large area coverage or special applications.

Remote stations are available in types for office, factory or outdoor installation. All stations can originate calls. Annunciator pedestals can be supplied for registering incoming calls. Made by **David Bogen Co.**, 663 Broadway, New York 12, N. Y.

▲ Mention Item NED-5838 when writing ▲

PACKAGING MACHINE

Redesigned all purpose model FA wrapping machine wraps cartons, open boats or flat objects on cardboard at speed of from 40 to 100 packages per minute. It employs any type of



wrapping material in roll or sheet form and handles varied sizes of packages. Maximum folding box has been increased from 5¼ to 5-5/8 inches.

Features include new type paper feed, glue pots that are easier to clean and permit use of any type of glue or cellosolve, spring floating heater units, sensitive paper stop that prevents light packages from tipping, transport mechanism that allows use of shorter discharge belts, and adaptable folding box. Made by **Package Machinery Co.**, 134 Birnie Ave., Springfield, Mass.

▲ Mention Item NED-5839 when writing ▲

DO YOU KNOW?

Built exclusively for intra-city transportation, fully air conditioned trolley coach has cooling and dehumidifying capacity equal to that of railway cars to compensate for high concentration of passenger load and frequency of opening doors. Two Carrier air conditioning units and one Freon compressor are mounted over roof of coach. Air conditioners made by Carrier Corp., 302 S. Geddes St., Syracuse 1, N. Y.

▲ Mention Item NED-5840 when writing ▲

NOW IT'S EASY TO IDENTIFY COATED ABRASIVES BY "CARBORUNDUM"

FOR complete information, please refer to our new, authoritative coated abrasives book, "Sanding & Finishing," available to all bonafide manufacturing plants. If you have not yet received your free copy, please write The Carborundum Company, Niagara Falls, New York.

("CARBORUNDUM" is a registered trade mark of and indicates manufacture by The Carborundum Company)

THERE IS A PRODUCT BY
CARBORUNDUM
FOR EVERY ABRASIVE APPLICATION

▲ Mention Item NED-5841 when writing ▲

WEDGE makes PROTECTORS of ALL types **STANDARD or SPECIAL**

We specialize in Protectors of all types and have many standard size Closing Plugs, Pipe Protectors, Plain Ends and Thread Protectors available. Will make up special to meet your requirements. It pays to protect valuable parts. Write.

Split-Feature Patented

The BEST way to weld pipe or tube joints is with **WEDGE** *Split* CHILL RINGS

Patent No. 2,156,169

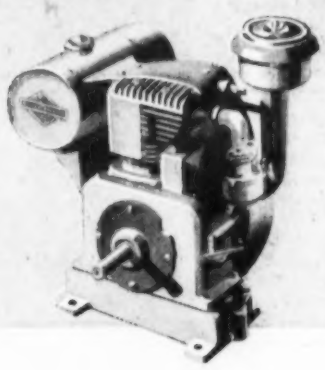
There is the best and most efficient way of doing any operation. Many have found that using WEDGE Chill Rings with the patented SPLIT Feature is the BEST way of welding pipe or tube joints. Write.

WEDGE PROTECTORS, INC.
9528 RICHMOND AVE. CLEVELAND 5, OHIO

Use WEDGE Chill Rings-Thread Protectors

▲ Mention Item NED-5842 when writing ▲

BRIGGS & STRATTON ENGINES NOW ON THEIR WAY BACK TO YOU!



Backed by an outstanding record of valiant service in scores of standard and special wartime applications, Briggs & Stratton 4-cycle gasoline engines have returned to peacetime activities. With greatly expanded facilities for precision manufacture, we are now producing more and more quick-starting, dependable, trouble-free, Briggs & Stratton engines in a full range of sizes and models—recognized the world over as the preferred "air-cooled power".

BRIGGS & STRATTON CORP.
Milwaukee 1, Wis, U. S. A.

Air-Cooled Power

4 CYCLE BRIGGS & STRATTON GASOLINE ENGINES

▲ Mention Item NED-5843 when writing ▲

SEND FOR THIS
RESISTOR DATA

For the convenience of designers of products requiring resistors, Ward Leonard offers this new Resistor Handbook. It describes in detail the full line of wire-wound resistors giving complete information on mountings, enclosures, terminals and resistance values. Write for your copy today.

BUY MORE WAR BONDS

WARD LEONARD
Electric control (WL) devices since 1892.

WARD LEONARD ELECTRIC COMPANY
51 SOUTH ST., MOUNT VERNON, N. Y

Mention Item NED-5844 when writing

Detroit

ELECTRIC HOISTS
PNEUMATIC HOISTS
ELECTRIC TRAVELING CRANES

THE extensive range of Detroit Hoist and Crane designs provides quick, economical handling of materials, and maximum safety for men and materials for practically any conditions of use.

Send in an outline of your handling problem; let us provide recommendations based on 40 years' experience in hoist and crane design and application. Ask for Bulletin 725.

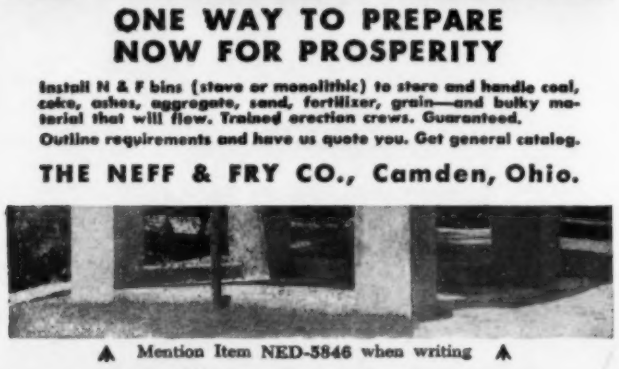
DETROIT HOIST AND MACHINE CO.
8208 Morrow St., Detroit 11, Mich.

Mention Item NED-5845 when writing

ONE WAY TO PREPARE NOW FOR PROSPERITY

Install N & F bins (stave or monolithic) to store and handle coal, coke, ashes, aggregate, sand, fertilizer, grain—and bulky material that will flow. Trained erection crews. Guaranteed.
Outline requirements and have us quote you. Get general catalog.

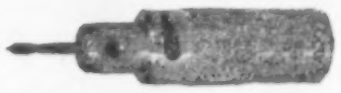
THE NEFF & FRY CO., Camden, Ohio.



Mention Item NED-5846 when writing

QUICK-CHANGE CHUCK

Of improved design, this one-piece quick-change chuck is adaptable for aircraft and other production drilling where drill sizes are changed frequently. Chuck is internally ground to close tolerances and adaptors are externally ground for precision fit. This assures concentricity. Two set screws provide drill gripping action in adaptor. Flute ends of broken drills can be salvaged and used with this tool. Made by **Zephyr Mfg. Co.**, 203 Hindry Ave., Inglewood, Calif.



Mention Item NED-5847 when writing

IMPACT RESISTANT LAMP

Equipped with rubber cushion base and designed to withstand violent shock, this high-impact 50-watt filament lamp was developed early in war for service on board ships. Violent shock caused by depth bombs, bombings, shelling, collision and similar events is said not to have damaged it.

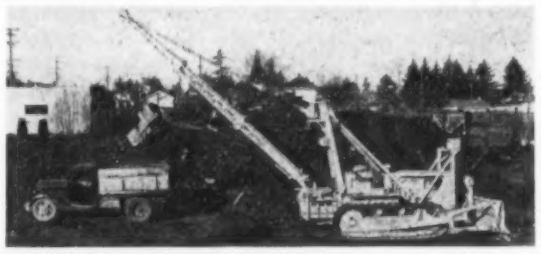
Except for thick band of rubber surrounding neck of bulb, lamp closely resembles ordinary household type. Remainder of heat and shock resisting skirted insert is located firmly between medium-screw base and glass neck of bulb.

Laboratory tests show that lamp will withstand shocks of 2000 foot-pounds and more. Peacetime uses of these lamps include lighting service in all types of equipment and service where shock, vibration and other severe conditions exist. Made by **General Electric Co.**, Lamp Div., Dept. 166-NED, Nela Park, Cleveland, O.

Mention Item NED-5848 when writing

MATERIALS HANDLING UNIT

Designed for tractor mounting, Hystaway is combination bulldozer, dragline, clamshell and crane unit. High partial use of bulldozer can be made without removing unit from rear of



tractor. When full bulldozer production is desired or other conventional uses of tractor are required, unit can be removed in less than 1 hour. It can be installed in 2 hours.

Since crawler track oscillation is not impeded by unit, full tractor mobility is retained. Crank control at mast head provides tractor rigidity when desired. Easily transported by dump trucks or flat bed trucks, unit can be taken from one job to another for tractor installation. Made by **Hyster Co.**, 2906 N. E. Clackamas St., Portland, Ore.

Mention Item NED-5849 when writing

LIFTING & CONVEYING SHEET-METAL PARTS FOR DIE-STAMPING or ASSEMBLY

OPENING COLLAPSED CARTONS for INSERTING CONTENTS

HOLDING FABRICS OR PAPER FOR ACCURATE BONDING, SLITTING or WINDING

POWER for CHUCKS or VISES

TANK EVACUATION

CLEANER or BLOWER SYSTEMS

"we're using AIR—it simplifies the job!"

and the
COMPACT MOTOAIR
does a whale of a job for its size. Free air volume up to 35 cu. ft. per minute . . . Vacuum up to 25 inches of mercury!

VACUUM OR PRESSURE PUMP

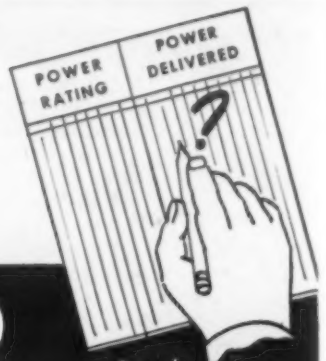
Has less parts to wear out; visible lubrication system.

NO BELTS—NO GEARS—NO GUARDS required—Supplied for normal, ceiling or wall mounting—Ask for Catalog

NEW JERSEY MACHINE CORPORATION
15th St. and Willow Ave. • HOBOKEN, N. J.

Mention Item NED-5850 when writing

THERE'S A BIG DIFFERENCE BETWEEN COUPLINGS!



L-R Flexible Couplings

Deliver MAXIMUM POWER
CORRECT MISALIGNMENT AND ENDWISE DISPLACEMENT
TAKE UP SHOCK, DRAG, WHIP, AND BACKLASH

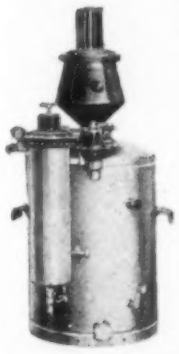
Get the facts about L-R's simplified, rugged Resilient Alignment construction, instantly adjusting to every emergency—L-R load cushion materials, for each kind of service. No shutdowns for changing. Never need lubrication.
Ask for complete Catalog and Selector Charts.
Duties 1/6 to 2500 h.p. Special couplings engineered. Write or write

L-R Type "A"
1/6 to 50 h.p.
Pat. & Pats. Pending.

LOVEJOY FLEXIBLE COUPLING COMPANY
5003 W. Lake Street Chicago 44, Ill.

Mention Item NED-5851 when writing

THE "Air Lift" CIRCULATING SYSTEM provides cooler, double-scrubbed acetylene gas



Use National Carbide for Highest Acetylene Yield

Without moving parts, the "Air Lift" principle of Airco Type "P" Portable Acetylene Generators keeps all water circulating as gas is generated.

Greater space between carbide hopper and water level, eliminates the "hot belt", gas is cool, clean, double-scrubbed.

Other outstanding features: quick, easy charging; glass window in carbide hopper; large opening sludge valve for fast draining; large agitator to stir sludge for complete removal.

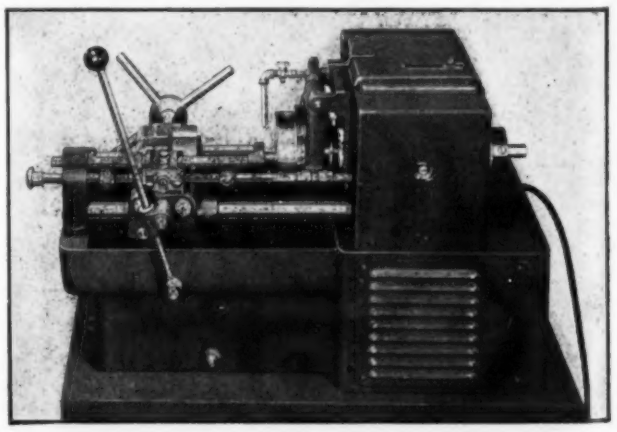
Three sizes, each approved for double-rated operation: 15-lb. size, 30 cu. ft. per hour; 30-lb. size, 60 cu. ft. per hour; and 50-lb. size, 100 cu. ft. per hour.

Write for Bulletin ADC 619-A to the nearest Airco field office or to Dept. IEN, Air Reduction, General Offices: 60 East 42nd Street, New York 17, N. Y. In Texas: Magnolia Airco Gas Products Co.—General Offices: Houston 1, Texas. Represented Internationally by Airco Export Corp.

AIR REDUCTION
Offices in all Principal Cities

AIRCO
Portable ACETYLENE GENERATORS

Mention Item NED-5852 when writing



VERSATILE THREADING MACHINE
(Rotary Die-Head Type)

The Oster No. 531 "TOM THUMB" portable threading machine with open-type vise and rotary die-head handles a wide variety of work either as an auxiliary to larger threading machines or as the one machine to handle all the work. Worm gear drive with hardened and ground steel worm and bronze worm gear typify the many features of this versatile threading machine. Standard range ¼" to 1¼"; extra range 1⅜" and 1½" (mild steel); Pipe or nipple range ⅛" to 1¼". Send for catalog.

OSTER
THE OSTER MFG. COMPANY
2066 East 61st Street—Cleveland 3, Ohio, U.S.A.

THREADING MACHINES • TURRET LATHES

Mention Item NED-5853 when writing

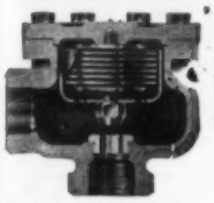
★ ★ ★ ★ ★ ★ ★ ★

PERFORMANCE RECORDS SHOW YOU CAN PROMOTE EFFICIENCY with

NICHOLSON

"Plant-Proved"

TRAPS FLOATS VALVES



Nicholson Welded Floats are of stainless or chromium-plated steel; spherical, cylindrical, elliptical. For every heavy-duty use. 2" to 14". Bulletin 345.

Nicholson Thermostatic Steam Traps have largest discharge capacity of any trap in their price range. Cannot freeze, water-log or air-bind. 5 types; size ¼" to 2". Sent on trial. Bulletin 544.

3-way valves for single, 4-way for double-acting cylinders; multi-port, metering, distributing, special types. For air, steam, oil, gas, tar, water. Lever, foot, solenoid, motor-operated types. Catalog 543.

OTHER NICHOLSON PRODUCTS: Piston and Weight-Operated Steam Traps; Compressed Air and Gasoline Traps; Flexible and Compression Shaft Couplings; Expanding Mandrels; Arbor Presses; Steam Eliminators and Separators

W. H. NICHOLSON CO. 162 Oregon St., Wilkes-Barre, Pa.

▲ Mention Item NED-5854 when writing ▲

Full 3/8" Drill

ONLY 7⅞" LONG..ONLY 5¾ LBS.

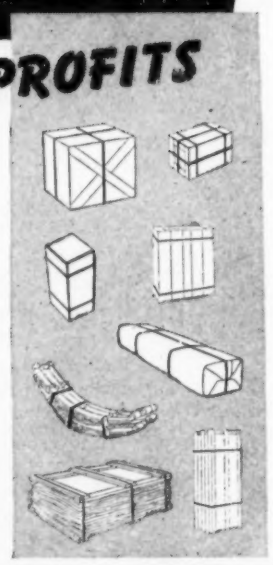
It's New! Though smaller in size and 40% lighter in weight than other drills of same capacity—this new Model 135 ARO rotary pneumatic drill has the punch and power of a heavy-weight for stall-proof operation on all drilling, reaming and counter-sinking *continuous production* jobs. Precision-built for accurate, efficient, long-lived dependability. Write for details and complete line catalog. The Aro Equipment Corp., Bryan, Ohio.

ARO PNEUMATIC TOOLS

▲ Mention Item NED-5855 when writing ▲

CORRECT PACKING AND SHIPPING PROTECTION WILL GO A LONG WAY TOWARD DETERMINING

BUSINESS PROFITS



Many nationally-famous products are Signode Steel strapped in their safe journey to market. In most instances an effective and economical pack, designed to meet specific protection requirements, has been developed through field engineering study. Research laboratory tests often reveal the correct type of container and the right way to strap it.

This Signode service is available to any manufacturer interested in perfecting his present shipping procedure...or one who may now be considering the merchandising of a new item.

Pictured are a few Signode protected containers and products. They illustrate the versatility of Signode proven methods.

SIGNODE STEEL STRAPPING CO.
General Offices:
2632 N. Western Ave., Chicago 47, Ill.
Branches:
378 Furman Street, Brooklyn 2, N. Y.
461 Bryant Street, San Francisco 7, Calif.

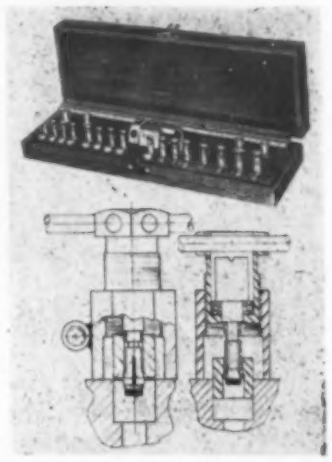
Illustrated Catalog showing Signode applications on many products. Your copy mailed on request.

SIGNODE STEEL STRAPPING CO.

HEADQUARTERS FOR STEEL STRAPPING

▲ Mention Item NED-5856 when writing ▲

DIE INSERT EXTRACTOR

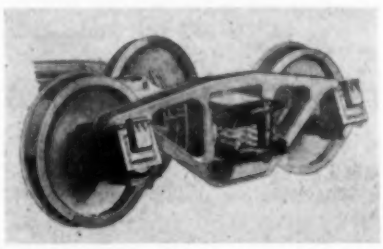


Straight or tapered hole type pierce die inserts can be removed from dies in tool room or while die is on press with this die button extractor set. It also removes slip fit inserts held with set screws or patented locks. Either hand knob or jack is used, depending upon tightness of fit.

Set model B32, illustrated, consists of sixteen extractors which will remove any insert with hole size ranging from 0.258 to 0.510 inch. Standard sets for larger size holes will be available soon. Special extractors can be made to specification for pulling liners, ball bearings, bushings, etc. Made by **Bolduc Specialties Co.**, 10074 Beechdale Ave., Detroit 4, Mich.

▲ Mention Item NED-5857 when writing ▲

CAR TRUCK SHOCK ABSORBER

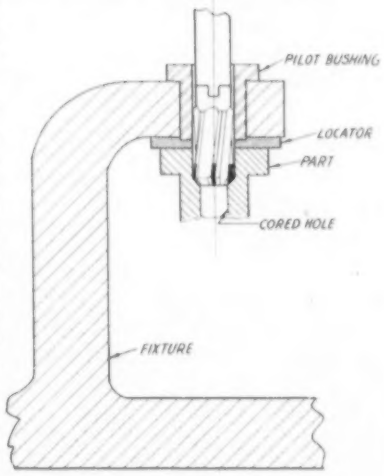


Protection of merchandise in freight cars is claimed to be afforded through use of two-way hydraulic shock absorber which has been developed to control truck action. Similar in design and type of mounting to those used on streamliners and passenger equipment, shock absorbers reduce "bottoming" to minimum and control rebound. Additional advantage is reduction of wear on springs, brakes, wheels and axles. Made by **Monroe Auto Equipment Co.**, Monroe, Mich.

▲ Mention Item NED-5858 when writing ▲

CARBIDE-TIPPED CORE DRILL

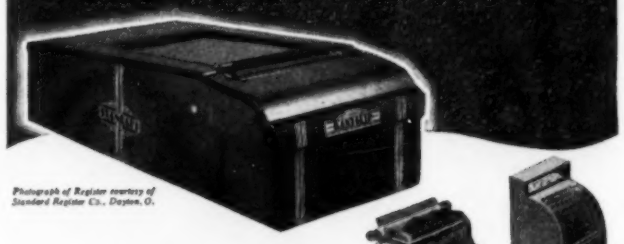
Hard scaly cast irons such as are used for rough cast exhaust manifolds are machined readily through use of carbide-tipped core drills. These tools are not carried as stock items, since dimensional requirements of different applications limit standardization of general design.



It is reported that these drills are giving, in one application on hard scaly cast iron, life of approximately 10,000 holes, 1-5/8 inches in diameter and 5/8-inch deep, between grinds. In breakdown tests, as high as 50,000 pieces per grind were obtained. Made by **Tungsten Carbide Tool Co.**, 2661 Joy Rd., Detroit 6, Mich.

▲ Mention Item NED-5859 when writing ▲

Do your product plans call for a CRINKLE FINISH?



Photograph of Register courtesy of Standard Register Co., Dayton, O.

MEYERCORD "Mar-Proof" Decals

SOLVE YOUR NAMEPLATE PROBLEM

Developed for tough combat use by The Meyercord Co., these new transfers will provide fast, lasting identification, instructions or other data on raw, painted or *crinkle-finished* metal in any size or design and a wide range of colors easily applied to flat, concave or convex surfaces. No rivets, bolts or screws required. Rigid tests prove their resistance to abrasion, temperature extremes, immersion, humidity and vibration. Investigate for your post-war needs. Address inquiries to Dept. 13-10

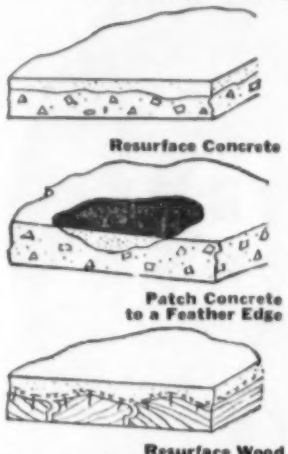
THE MEYERCORD CO.
World's Leading Decalcomania Manufacturer
5323 WEST LAKE STREET • CHICAGO 44, ILLINOIS

▲ Mention Item NED-5860 when writing ▲

Use "PERMAFLEX" Resurface and Patch INDUSTRIAL FLOORS

Bonds Perfectly — Never Comes Loose

3000 lbs. pressure per sq. in., will not rut



Lowest cost and most durable industrial flooring ever invented. Write for 100 sq. ft. trial offer.

HEAVY DUTY • DUSTPROOF
SLIPPROOF • WATERPROOF
RESTFUL—QUIET

Install right over your old Floors, Walks and Drives.

No need to move machinery, finish right up to it. No Chipping. No Dust. No Delay. Install Friday night and Saturday, ready for use on Monday.

Never a failure in over 1,000 installations.

Our Contract Department can do the installation work for you at any rate to 30,000 sq. ft. per day.

AMAZING! UNBELIEVABLE!

Until you try "PERMAFLEX"

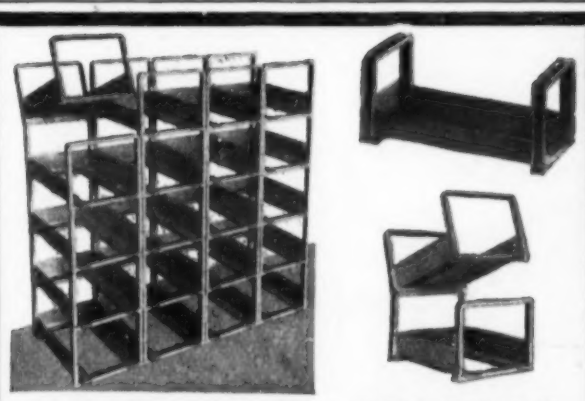
Users include U. S. Steel, Bethlehem, Republic, General Motors, A. O. Smith, Western Electric and Leading Railroads.

San Fran. - 214 Front St. Phone Garfield 3196
Chicago - 1500 S. Western Ave. " Canal 6811
Detroit - 6432 Cass Ave. " Madison 6300
New York - 270 Hicks St. Brooklyn " Triangle 5-4537

INSTALL COMPLETE 12½c per square foot

PERMAFLEX PRODUCTS COMPANY
1838 North Front Street Philadelphia, Pa.

▲ Mention Item NED-5861 when writing ▲



UP-TO-DATE STORAGE of boxes of Tools, Parts and Materials

Every box is instantly accessible when you use STACKRACKS. Heavy containers slide in and out like drawers—you can get at the contents of any one quickly and easily without disturbing the others. Patented STACKRACKS, to fit your boxes, interlock to form storage units of any size, shape or capacity.

Manufactured and sold in Canada exclusively by Walter H. Wickware, Ottawa.

STACKRACKS WRITE STACKBIN CORP. 71 TROY ST., PROVIDENCE 1, R. I.

STACKBIN SYSTEM "Stacked and Still Accessible"

▲ Mention Item NED-5862 when writing ▲

This valuable Booklet in YOUR Hands will show how to . . .

- Save man hours in spotting cars
- Cut down demurrage
- Speed loading and unloading
- Drag heavy materials
- Accelerate production
- Launch and beach flying boats
- Pull engines on test blocks
- Warp barges
- Bend pipe
- And do countless other back-breaking jobs quickly and easily at very low cost with

The *mighty* LINK-BELT *Electric* Car Spotter

Simple to operate and made in two sizes, portable or stationery units with 5 or 10 H.P. motors for marlin clad or manila rope pull of 5000 and 10000 lbs. at a forward or reverse speed of 45 F.P.M. Write for Booklet No. 1992 today.

LINK-BELT COMPANY 10,070
2410 West 18th Street Chicago 8, Illinois

▲ Mention Item NED-5863 when writing ▲

BOLTS

· ALL TYPES ·

Quality

Since 1854 CLARK

CLARK BROS BOLT CO.

MILLDALE, CONN.

· ALL SIZES ·

NUTS

▲ Mention Item NED-5864 when writing ▲

PAYROLL and DIVIDEND

Both depend upon

THE JOB OF MANAGEMENT

in Reconversion . . .

● Today—management faces its crisis! Upon the speed and the wisdom with which its plans for reconversion are set into motion depend both payroll and dividend. Only the efficient can survive!

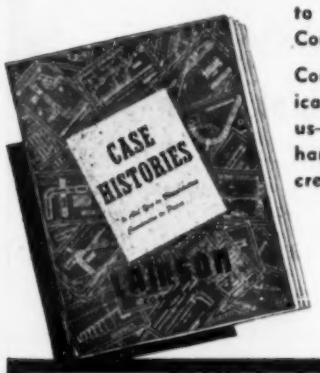
Complete mechanization, enabling the most productive use of manpower, is of primary importance. Equipment that will do it better, faster, and cheaper is the best insurance for the future.

Lamson Conveyors and Lamson Pneumatic Tubes—engineered installations of these two cost-cutters helped win many an "E" award. The same plants will have a head-start in the race for the consumer dollar—the race that is already starting!

To assist you in your planning, we'd like to send the

FREE BOOK "CASE HISTORIES

to Aid You in Blueprinting Conversion to Peace . . ."



Come inside some of America's greatest industries with us—and see how they will handle the problems of increased output at lower cost.

Ask for your copy TODAY

LAMSON CORPORATION
550 Lamson St., Syracuse 1, N. Y.

Please send my copy of your reconversion booklet. I'm willing to learn what your planning assistance has done for others.

Name..... Position.....

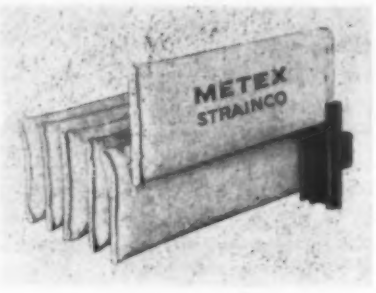
Company.....

Address.....

City and Zone..... State.....

▲ Mention Item NED-5865 when writing ▲

COOLANT OIL STRAINER



Easily installed on grinders, lathes and other machine tools, Metex model G coolant and cutting oil strainer provides clean fluids over long period of uninterrupted service. Preventing chips or particles from being recirculated in fluids, strainer units help avoid scoring or other defective work in machine operations.

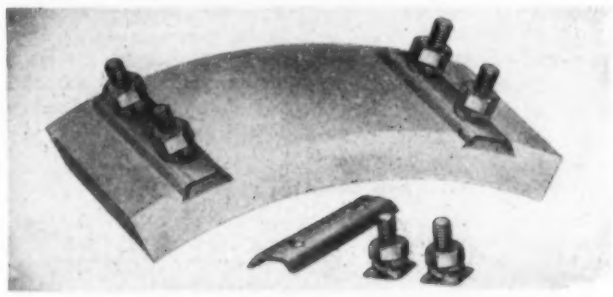
Strainer is constructed of knitted fabric and wire made into strong noncollapsible rectangular unit with large strainer area. Composite honeycomb mesh is sufficiently fine to catch dirt, grit and chips while providing ample free area for passage of cleaned fluids.

Strainer units are submerged in machine tool sump tank or in separate tank on pump intake. They are available in six sizes and with three or six individual straining elements which feed through plenum and are interchangeable. Clean strainer refills can be installed quickly in slots and old ones washed for further service. Made by **Strainer Products Corp.**, 73 N. Willow St., Montclair, N. J.

▲ Mention Item NED-5866 when writing ▲

INDUSTRIAL BRAKE BLOCKS

Possessing quick replacement features, types R-M Key-Lok brake blocks feature lateral fishtail metal strips or keepers in which bolts are inserted and which are spaced to fit brake



bands. These keepers slide into fishtail slots cut into block. It is claimed that through this construction, bolts, bands or shoes never need to be removed for relining. All that is necessary is to loosen keeper nuts slightly, slide off old and slide on new. Bolts are then tightened and necessary adjustments made. There is no danger of springing bands. Construction is adaptable to both internal and external brake applications. Made by **Raybestos-Manhattan, Inc.**, 94 Townsend St., Passaic, N. J.

▲ Mention Item NED-5867 when writing ▲

DO YOU KNOW?

Recognizable by anyone regardless of nationality, education or ability to read, checkerboard pattern may replace alphabet in testing visual acuity. It is being used by Navy and industrial concerns in visual classification and personnel placement tests. Diamond-shaped ortho-rater pattern consists of nine alternating white and dark squares. One small square is checkerboard pattern which becomes smaller as test progresses. Testee is required to determine position of checkerboard square. Developed by Bausch & Lomb Optical Co., 727 St. Paul St., Rochester, N. Y.

▲ Mention Item NED-5868 when writing ▲

The SHELDON S-56 lathe has a bed length of 56", with rigid T-girted bed with 2 V-ways and 2 Flat ways which are ground and hand scraped to .0005" of both lateral and parallel alignment. Lead screws are cut on the finest Pratt & Whitney "super precision" lead screw machine. The S-56 lathe with 56" bed is mounted on a rigid 5 drawer steel bench (S-44 with 44" bed on a 4 drawer bench) which houses an efficient 4-speed (8 spindle speed) underneath motor drive. Each come with full quick change gears, power longitudinal and cross feeds and other big lathe features.

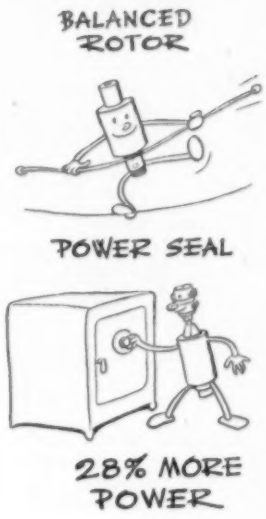
- Heavy bronze bearings
- 1" Collet capacity
- 11½-inch swing
- Double-walled apron
- Large hardened and ground spindle
- Extreme Accuracy
- Convenient controls
- Underneath V-belt motor drive
- All Steel Bench

SHELDON MACHINE CO., INC.
4215 N. Knox Avenue, Chicago 41, U.S.A.
Builders of Good Lathes since 1919

▲ Mention Item NED-5869 when writing ▲

That's Why AIRETOOL CLEANERS CUT TUBE CLEANING COSTS

Less down time! No tube damage!



Balanced Rotor, Power Seal, 28% more power, New Form Cutters—these are the Airetool Tube Cleaner features that reduce tube cleaning cost . . . eliminate tube damage . . . reduce down time.

The Balanced Rotor in Airetool's powerful motor eliminates friction so that all power is directed against the load. The Power Seal feature stops power waste in the operation of the motor and produces constant torque at low speeds, eliminates dead centers and allows the motor to be loaded to 50 rpm without stalling. Motor picks up immediately when load is released. As the result of the features of Airetool motors, 28% greater load is developed.

The Airetool New Form Cutters eliminates the tendency of cutters to track and damage tubes. This is made possible by an exclusive Airetool development—the periphery of the cutter milled to divide sections of the circumference into teeth of various pitch, as shown in the illustration, which prevents cutter finding the same spot in a tube wall during each revolution.

Airetool Tube Cleaners are offered in a variety of sizes and styles to efficiently and economically meet every tube cleaning problem. Made for tubes ½ in. to 24 in. I.D.; straight or curved.

Write for Your Copy of Free Bulletins

AIRETOOL MANUFACTURING COMPANY

441 Airetool & Yost-Superior Factory Bldgs.
SPRINGFIELD, OHIO

▲ Mention Item NED-5870 when writing ▲

TEXTOLITE #1838 FOR PUNCHING

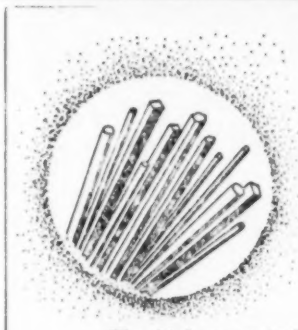
G-E Textolite #1838, a paper base—phenolic laminated, is the recommended punching grade which will meet JAN-P13-E1 electrical properties. It will punch cold up to 1/8 inch thichness, but finish of pieces is better if punched at 150°F to 175°F.

G-E Textolite #1838, available in sheet form, is used for low voltage applications such as, radio tube sockets, terminal strips, and other parts involving intricate shapes with not too critical requirements as to loss and power factor. For further information write Section M-46, One Plastics Avenue, Pittsfield, Mass.

GENERAL ELECTRIC

PD-46

▲ Mention Item NED-5871 when writing ▲



TITAN

FREE TURNING BRASS ROD

The highest attainable quality and uniformity in brass and bronze have been consistently maintained in Titan Products for the past thirty years. Every rod is extruded and cold drawn to extremely close tolerances. A wide range of analyses, with various combinations of physical properties, provides the correct material for practically every need.

ALSO:

- Brass Forging and Corrosion Resisting Rod
- Brass Extruded Shapes
- Brass Pressure Die Castings
- Brass Hot Pressed Forgings
- Bronze Welding Rod

Write for literature on materials in which you are interested. Titan Metallurgists will assist with recommendations if desired.

TITAN

METAL MANUFACTURING CO., BELLEFONTE, PA.

Sales Offices: New York—39 Cortland St.
Chicago • San Francisco • New Orleans
Export Office—70 Pine St., New York 5, N. Y.

Quality Alloys by Brass Specialists
Brass and Bronze Rod • Forgings • Die Castings • Welding Rods

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STOP DUST with DUSTKOPS

Model 420 for small tool grinders, surface grinders, small wheel buffers, polishers, sanders, etc.

Dust, lint, dirt from all kinds of dry grinding, polishing and buffing stopped with DUSTKOP.

Individual, portable, and low cost; DUSTKOPS are built to be installed in a few minutes. Need no duct work. Can be moved with Grinder. Operate only when grinder is operating.

Get complete information now on the new, improved design DUSTKOPS.

AGET - DETROIT CO.
603 First National Bldg.
ANN ARBOR, MICHIGAN
Phone: 2-5585

▲ Mention Item NED-5873 when writing ▲

AVERAGE 100% TO 300%

Increase IN TOOL LIFE . . .

Here is a manufacturer who has increased the life of standard high speed steel cutting tools on an average of from 100% to 300% through a simple sub-zero treatment in a Deepfreeze Industrial Chilling Machine. Shop records show gains up to 1000% per grind after tools have been subjected to cold treatment. The result of this increased tool efficiency is less machine down time and greater production economy.

Check the Results of Applying Cold Treating to Your Production by Contacting Deepfreeze Engineering Service

Cold treating is not confined to the treatment of metal cutting tools. It is used with the same efficiency for many component parts where long life and very close tolerances are required. The greater dimensional stability, possible by reason of the sub-zero treatment, will also prove highly profitable in critical components, gauges, and all types of precision instruments. It is being widely used to contract metal for shrink-fit assembly and for testing and numerous other purposes. All can be accomplished right in your own plant. Why not find out? You can predetermine the many results of applying cold treating to your production by contacting Deepfreeze Engineering Service. This service will not obligate you in any way.

TOOL LIFE INCREASED BY FOLLOWING INEXPENSIVE COLD TREATING PROCEDURE LIKE THIS . . .

Molybdenum Type Steel Tools and Tungsten Type Steel Tools 18-4-4, 18-4-2
- *A. Use standard heat treatment and drawing procedure.
- B. Cool to room temperature.
- C. Cold treat at −120° F. to −130° F. for two hours and allow to return to room temperature.

RESULTS:
1. Tool failure after cold treating almost disappeared.
2. Magnaflux inspection showed very few cracks, seams, or other irregularities.
3. Rockwell "C" hardness 63-65.
4. Tool life greatly increased up to 1500%.

**Detailed heat treating and drawing procedures used on these tools available upon request.*

FREE . . . Cold Treating Facts to Improve Production . . .
You can use the information in this new Deepfreeze Booklet to improve many phases of your production. It relates a complete history of cold treating . . . details several of the most reliable cold treating procedures . . . cites actual performance stories that you can duplicate . . . and lists much additional data of extreme value. Write today for your free copy.

Only Motor Products can make a "Deepfreeze"

Trade-mark DEEPFREEZE Registered United States Patent Office

Deepfreeze DEPT. NE-10, 2301 DAVIS ST. NORTH CHICAGO, ILLINOIS
DIVISION OF MOTOR PRODUCTS CORPORATION DETROIT MICHIGAN

▲ Mention Item NED-5874 when writing ▲

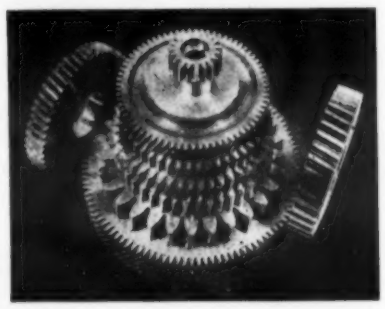
INDUSTRIAL POWER TRUCK

Having stationary bed, this motorized load-carrying industrial truck has rated capacity of 4000 pounds. Finger-tip control permits maneuvering of heavy loads forward or backward to destination. Control consists of two buttons on handle for forward or reverse motion and they operate in conjunction with Allen-Bradley controller unit. Dynamic braking is provided. Forward or reverse speeds are 312 feet per minute when empty and 220 feet per minute when fully loaded. Power is furnished by heavy duty batteries which operate 10 to 20 hours under maximum load without recharging. High starting torque is provided by 14.5:1 reduction gearing from 12-volt enclosed series motor.

Rear drive transmission consists of spiral bevel and spur gears. They are of alloy steel, heat treated, operate in oil bath and have ball bearings. Jewell alloy steel cast wheels have sealed ball bearings and rotate on alloy steel axles. Rubber or other protective tread wheels can be supplied. Front wheel load is taken on Timken thrust bearing in steering column. Made by **Lift Trucks, Inc.**, Dept. 21, 2425 Spring Grove Ave., Cincinnati 14, O.

▲ Mention Item NED-5875 when writing ▲

GEAR FINISHING TOOLS



Complete line of gear finishing tools includes gear finishing or shaving cutters of both rotary and rack type, spur and helical type laps for gear lapping, spur and helical burnishers and ground master gears of both helical and spur types for checking finished gears.

Either complete racks or replacement rack blades can be supplied and service of rack resharpening is available. Rotary gear finishing cutters are available in standard sizes for Michigan gear finishing machines and range in size from 3 to 12 inches in diameter for finishing gears from ¼-inch to 49 inches in diameter. One cutter will finish gears of various diameters providing helical angle, diametral pitch and pressure angles of gears are same. Fine and coarse pitch cutters are available.

Standard gear laps have 1-inch face width and usually 9 or 10-inch diameter. Laps for both external and internal, and spur and helical gears are available. They can be recut as many times as correct center distance between lap and work is maintained. Burnishing gears are furnished for both helical and spur gears. Master gears are furnished in spur and right or left-hand helical types with helix angles to maximum of 60 degrees. These gears are made to standard tooth thickness plus one-half the backlash desired to avoid interference due to deep penetration of gear teeth while rolling gears to be checked with master gear. Made by **Colonial Tool Co.**, Windsor, Ont., Canada.

▲ Mention Item NED-5876 when writing ▲

This low-cost floor for offices is

ATTRACTIVE . . . LONG WEARING

ARMSTRONG'S Standard Asphalt Tile is durable and easy to clean. This hand-set floor is not affected by moisture and can be laid over concrete in direct contact with the ground. It's quickly installed with little interruption to office routine.

In manufacturing areas, use Armstrong's Industrial Asphalt Tile for fast trucking and comfort. It's nonslip, nonsparking, and fire resistant. For details of free test floor, write to Armstrong Cork Company, Resilient Tile Floors Department, 6610 New Street, Lancaster, Pa.

NEW BOOK FREE—Send for your copy of "Industrial Floors by Armstrong"

ARMSTRONG'S INDUSTRIAL FLOORS

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. . . Engineered by KINNEAR to cut your DOOR COSTS!

These KINNEAR advantages, plus savings in time, manpower, heating and air conditioning costs, and maintenance, are unbeatable for lower door costs. KINNEAR Steel Rolling Doors offer extra *all-steel* protection against theft and intrusion . . . against fire, wind, weather, and wear. Write!

KINNEAR STEEL ROLLING DOORS provide . . .
- Rugged all-steel construction.
- Coiling upward action.
- Effective counterbalance.
- Flexible interlocking steel-slat curtain.
- Complete usability of all floor, wall and ceiling space around doorways.
- Motor operation, with remote control if desired.
- Doors that are individually engineered to each job.
- Many other important advantages.

KINNEAR

The KINNEAR Manufacturing Co.
Factories:
3017 Fields Ave., Columbus 16, Ohio
1742 Yosemite Ave., San Francisco 24, Cal.

SAVING WAYS IN DOORWAYS

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Looping the Loops for LONGER WEAR!

It's the special "loop-finished" cloth in JOMAC GLOVES . . . a fabric which is lock-stitched to keep the thick cushion-pile in place and to give up to 7 *times the wear* of ordinary work-gloves. Jomac Heat- and Flame-Resisting Gloves are guarding workers' hands on hot-handling jobs . . . increasing production . . . lowering costs. And they can be washed repeatedly, *kept clean!*

TRY JOMAC GLOVES—Test them in your own shop—on your *toughest jobs*. Check them for wear, for washability, for increased production. Write for full details. C. WALKER JONES Co., Philadelphia 38, Penna.

JOMAC'S LATEST CREATION—Safety *GAUNTLET-CUFFS*. Now, you simply replace worn glove without the expense of buying full gauntlet.

JOMAC

HEAT- AND FLAME-RESISTING GLOVES

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JONES 2400 SERIES PLUGS AND SOCKETS

P-2406-CCT

A new series of Plugs and Sockets designed for highest electrical and mechanical efficiency. Improved Socket Contacts provide 4 individual flexing surfaces which make positive contact over practically their entire length. The Contacts on both Plugs and Sockets are mounted in recessed pockets greatly increasing leakage distance, thereby increasing voltage rating. Insulation is of BM 120 molded Bakelite.

Plug and Socket contacts are silver plated. The finished appearance of this series will add considerably to your equipment.

S-2406-SB

The 2400 Series are interchangeable with the 400 Series. Send today for general catalog No. 14 listing and illustrating our complete line of Plugs, Sockets and Terminal Strips.

HOWARD B. JONES COMPANY
2460 W. GEORGE ST. CHICAGO 18

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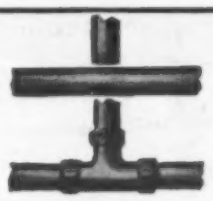
FROM THIS



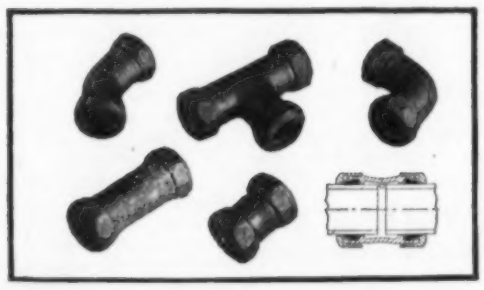
TO THIS

IN 5 MINUTES

"Cut-ins"—and any kind of small pipe assemblies or connections—can be made without pipe threading, exact pipe fitting, or other time-consuming operations . . . with handy Dresser Style 65 NO-THREAD Fittings shown below.

Available in all standard sizes and types.

Dresser Mfg. Division, Dresser Industries, Inc., Bradford, Pa.; in Texas: 1121 Rothwell Street, Sec. 16, Houston, Texas.



DRESSER FITTINGS

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SCHRAMM OFFERS THESE

Exclusive

COMPRESSOR-ECONOMY FEATURES

Four features make Schramm Air Compressors ideal for industry They are: (1) 100% water cooled (2) compact—lightweight (3) mechanical intake valve (4) forced feed lubrication. These features enable you to do your job quickly, easily, economically.

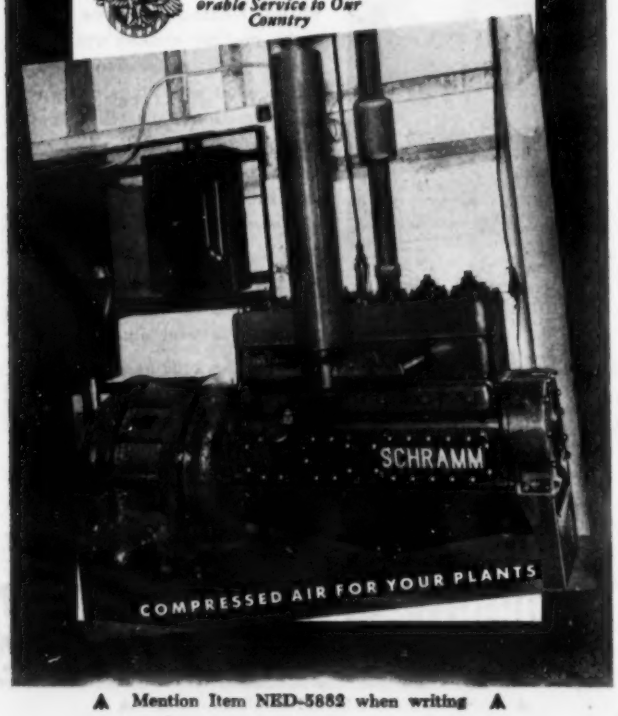
Schramm Compressors are designed for heavy duty, continuous service, with minimum attention. They are built in sizes ranging from 20 to 600 cu. ft. displacement, in every type of mounting and assembly.

Other Schramm features include long life discharge valve, and smooth, vibrationless operation. Make your compressed air job *easier* by using Schramm. Write today for details in FREE booklet just published.

SCHRAMM INC.

THE COMPRESSOR PEOPLE • WEST CHESTER • PENNSYLVANIA

This Stands for Honorable Service to Our Country



▲ Mention Item NED-5882 when writing ▲

VARIABLE TRANSFORMER

With primary wound for 115 volts input and variable secondary wound for output of 0 to 130 volts, type W Vari-Formers are double or isolation wound for laboratory and industrial use. Separate terminals are provided for both primary and secondary windings for full flexibility. It is possible to connect these units as auto transformers, making several different voltage combinations. Inputs of 115 or 220 volts can be applied and output ranges of 0 to 65 volts or 65 to 130 volts are obtainable with increments of 0.3-volt. Likewise, output ranges of 0 to 130 volts or 115 to 245 volts with increments of 0.6-volt are possible.

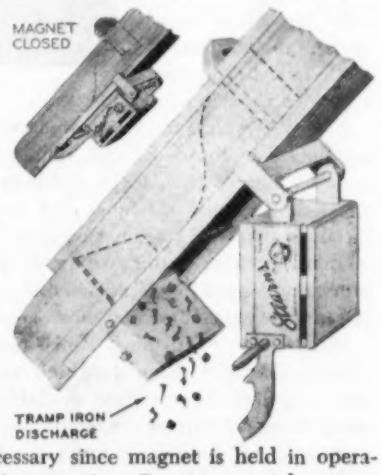
Separate primary and variable secondary windings are wound on same core. This results in critical regulation and eliminates necessity of using two transformers to obtain isolated variable voltage supply. For electronic testing and special applications, an electrostatic shield is imposed between primary and secondary, grounded to core and brought out to separate terminal.

Units with capacity of from 500 to 2000 volt-amperes are available. Former unit measures 7 x 9 x 4½ inches and weighs 20 pounds. Latter size measures 10 x 10 x 8 inches and weighs 50 pounds. Custom built units are also available. Illustrated unit is model LW 43 AX with capacity of 600-volt-amperes. Made by **Gulow Corp.**, 26 Waverly Pl., New York 3, N. Y.

▲ Mention Item NED-5883 when writing ▲

MAGNET SPOUT SEPARATOR

Featuring automatic discharge of tramp iron, type PM permanent magnet spout separator eliminates need for manual cleaning operations. When magnet is lowered, accumulated tramp iron falls through gate which operates in conjunction with magnet release. When magnet is returned to operating position, gate is closed and flow of material is resumed. Magnet mechanism can be controlled from near or remote positions.



Other features include double gap magnetic field to attract smallest particles of metallic material. No latch arrangement is necessary since magnet is held in operating position by magnetic attraction. Because special magnet alloy steel provides powerful magnetic field, no outside electrical energy is required. When mounting in hammer mills, no insulating shims are needed. Magnets fit range of spout widths from 8 to 24 inches in standard sizes. Made by **Stearns Magnetic Mfg. Co.**, 653 S. 28th St., Milwaukee 4, Wis.

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Patient beasts of burden take over where mechanical transportation dare not go. Primitive? Yes. But practical when other means are absent.

But don't use pack-mule procedure in your plant. Put Truck-Man on your factory trails—to carry loads up to 2000 lbs. It's steel. Untiring and trustworthy. But surefooted and nimble in narrow spaces.

Gasoline power—hydraulic lift—two speeds—simple to operate. Lightens labor, saves man-hours, pares production costs. *Get catalog.*

truck-man

a product of

YARD-MAN, INC.

1414 West Ganson • Jackson, Mich.

$675.00

F.O.B. Jackson Mich.

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"Held up by reconversion, you s'pose?"

THIS SHOULDN'T HAPPEN TO YOU—*delayed reconversion,* we mean. And it won't, so far as postwar relocation of motors and machines is concerned, if those motors carry the R & M Uni-Shell name. For Uni-Shell is the only complete motor line in which all types in any one frame size are *interchangeable.* A free, 20-page booklet on R & M Uni-Shell Motors can help you with your plans for making the change-over easily, quickly. Send for your copy of Booklet 1845, today.

ROBBINS & MYERS, INC. SPRINGFIELD, OHIO

In Canada: Robbins & Myers Co. of Canada, Ltd., Brantford, Ontario

MOTORS • HOISTS & CRANES • FANS • MOYNO PUMPS

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SLY PIONEERS AND LEADERS IN **DUST Control**

Sly Dust Filter used for the collection of fine, float, silica dust in a large southern California plant. Thousands of other Sly Dust Filters are used similarly for suppression and collection of injurious dusts.

Sly pioneered in the development of positive dust collection and were the original patentees of the cloth type filter.

The most effective—as well as simplest and cheapest—method of dust collection is by cloth filtration. The Sly Filter uses more cloth than any other and hence has greater filtering capacity.

This additional capacity plus savings in operation and maintenance make the Sly Filter most inexpensive in the long run. Ask for Bulletin 98 and state your condition so that we can write you fully. *Send for this bulletin.*

THE W. W. SLY MFG. CO.
4748 Train Ave. • Cleveland 2, O.

SLY

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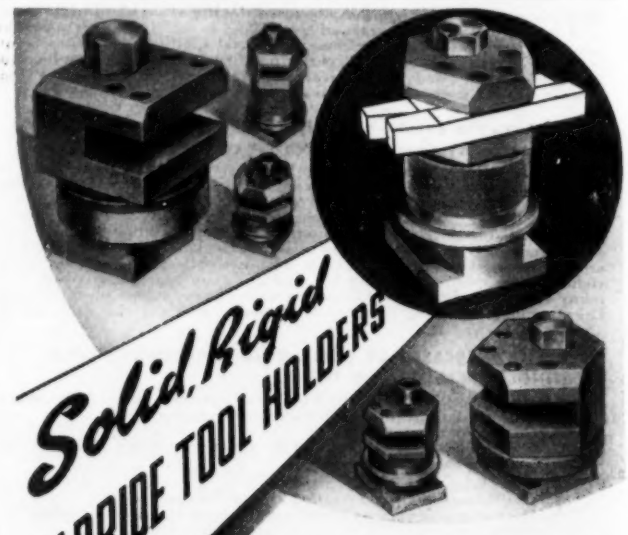

Solid, Rigid

CARBIDE TOOL HOLDERS

No Rockers — No Shims Required

Increases Accuracy of Work

• Fourteen models in sizes to handle all types of work. Note these features: *Eliminates tool *spring* or *chattering.* *Vertical height adjustment keeps tool *clearance* angle the same at any height. *Tools easily removed for grinding without losing *set-up.* *Minimum over-hang. Holder can be placed CLOSE to the work, minimizing tool breakage. *Permits the use of smaller tools to do the same job. *Custom-made, fitted to your machine. *Hardened head—Parker rust-proof finish. *Ideal for interrupted cuts.

WRITE TODAY FOR DETAILED LITERATURE

Howard Dearborn, Inc.

3370 WEST 140TH STREET CLEVELAND 11, OHIO

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HOW REMOVABLE STICKERS INCREASE WAR PRODUCTION

Learn more about these amazing peelable production stickers that are applied without moistening, stick to any smooth surface, yet are easily removed when their work is done. The booklet shows their many time-saving uses at Douglas, Bendix, Consolidated, Buick, Pratt and Whitney, Briggs, General Electric, U S. Signal Corps, Allis Chalmers, etc. Write Dept. NED-10A.

Write for Folder Showing Many Proven Uses of These Amazing Stickers

AVERY
Kum-Kleen
PRODUCTION STICKERS

AVERY ADHESIVES: 451 E. 3rd St., Los Angeles 13
New York • Boston • Detroit • Pittsburgh • Chicago
Kansas City, Mo. • In Canada: Enterprise Sales, Toronto

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WORTHINGTON ALLSPEED DRIVE

MODEL A ½ to ¾ hp, speed ratio 16 to 1
MODEL C 1 to 3 hp, speed ratio 9 to 1

. . . Simple . . . Compact . . . Trouble-Free

- Only with a Model A Worthington Allspeed Drive can you get smooth, stepless speed control over a 16 to 1 speed range with so few moving parts.
- Only Worthington gives you automatic belt-tensioning without springs.
- Only Worthington's two-belt tandem arrangement can provide such wide speed range in so little space.
- Get all the facts in Bulletin V-1400-B10A. Write today for your copy.

Worthington Pump and Machinery Corporation Merchandising Division, Harrison, N. J.

WORTHINGTON

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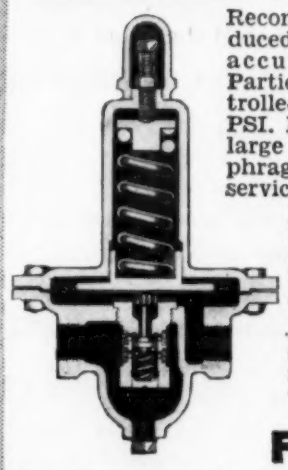
FISHER TYPE 88L

SELF CONTAINED
GENERAL PURPOSE PRESSURE REGULATOR



Recommended where reduced pressure must be accurately maintained. Particularly suited to controlled pressures under 10 PSI. Furnished with extra large composition diaphragm for low pressure service. Stainless steel or phosphor bronze diaphragm furnished for special applications. Available in sizes ¼", ⅜", and ½" only.

PRESSURE RANGE
Reduced: 1 to 25 PSI
Initial: Up to 250 PSI

Write today for details

FISHER GOVERNOR CO.
1436 Fisher Building
MARSHALLTOWN, IOWA

Every Fisher automatic controller is guaranteed to give satisfactory performance.

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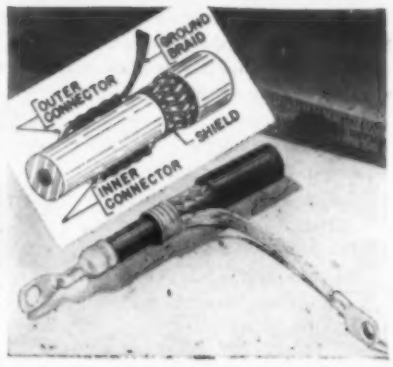
CABLE CONNECTORS



Making of connections, taps and splices in coaxial and shielded cable is facilitated by use of Hydent connectors. These are installed by indenting with Hytools, and need for solder and possibility of insulation damage resulting from heat are eliminated.

Connector for braided conductor or shield can be installed with braid tap to make terminal connection or ground tap, or it can be used to anchor shield to prevent braid from slipping. Connection with inner conductor is made with Hylug having insulation shroud. Lug is indented to conductor and shroud crimped to insulation to form strong moistureproof terminal. Outer conductor or shield is grounded or terminated by connection which consists of two ferrules and braided tap equipped with Hylug. Smaller ferrule is slipped between inner insulation and outer conductor to take up pressure when assembly is crimped. Larger ferrule accommodates braid jumper tap and is slipped over outer conductor or shield. Whole assembly is then crimped with interlocking dies.

Splices are made in similar manner. Two ends of inner conductors are connected by Hylink. Braided conductors are spliced by tubular connector crimped over two ends. Made by **Burndy Engineering Co.**, 107 Bruckner Blvd., New York 54, N. Y.

▲ Mention Item NED-5892 when writing ▲

POWER DRIVEN PIPE CLEANER

Cleaning, scraping or polishing of inside of straight, curved or jointed piping is accomplished easily with this pipe cleaning machine. Housing and driving ½-inch x 100-foot flexible steel shafting, unit is fully portable. Flexible cable coils and uncoils automatically as it is fed into and from container. Motor driven head is removable from stand.

In operation, driving unit is held at opening of pipe or tube so that desired length of flexible rod can be fed into pipe. Spring steel cutter heads, like that shown, are available for removing waste material or scale. Normal speed of cutter head is 300 revolutions per minute. When cutter encounters resistance from obstruction, flexible rod stores up energy until accumulated torque overcomes resistance. Release of torque spins cutter head at speed of approximately 750 revolutions per minute.

Tool can be used for opening drain pipes. It is also used for cleaning tubes of water-tube boilers, flues, steam risers and other process plant piping. Made by **Spartan Tool Co.**, 6007A N. Lincoln Ave., Chicago 45, Ill.

▲ Mention Item NED-5893 when writing ▲

▲ Mention Item NED-5894 when writing ▲

SAFETY MEN DEMAND Porto-Power

Out go old-fashioned maintenance methods when remotely controlled Porto-Power Hydraulic Equipment comes on the job! Get Porto-Power details from your industrial distributor or write Blackhawk Mfg. Co., Milwaukee 1, Wisconsin.

BLACKHAWK

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It Pays to Buy *Complete* Pumping Units

BUILT, GUARANTEED, AND SERVICED BY *ONE* MANUFACTURER

FAIRBANKS-MORSE complete pumping units offer you much more than sustained high efficiency. There are in addition these three vitally important advantages:

1. ***Combined Responsibility.*** Designed and built in one factory, pump and driver (motor or engine) are perfectly matched and covered by a single guarantee.
2. ***Successful UNIT Performance.*** Tested in one plant under expert engineering supervision, pumps and drivers assure a superior result to the buyer.
3. ***Service from One Source.*** No question as to who will make any required repairs or adjustments.

To benefit from these major advantages, consult a Fairbanks-Morse pump engineer. Write Fairbanks, Morse & Co., Fairbanks-Morse Building, Chicago 5, Illinois.

BUY MORE VICTORY BONDS

Fairbanks-Morse
A name worth remembering

Diesel Locomotives • Diesel Engines • Generators • Motors • Pumps • Scales • Magnetos • Stokers • Railroad Motor Cars and Standpipes • Farm Equipment

▲ Mention Item NED-5896 when writing ▲

GET SET NOW-

PRINT YOUR WEIGHTS

Toledo PRINTWEIGH Scales keep weight records *right!* No human mistakes in reading, remembering and recording can slip in. For modern control in receiving, shipping, batching . . . get set now with Toledo PRINTWEIGH! Toledo Scale Company, Toledo 12, Ohio.

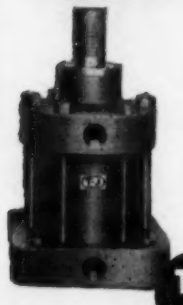
TOLEDO HEADQUARTERS FOR **SCALES**

▲ Mention Item NED-5897 when writing ▲

Simplify your Machines

...SPEED PRODUCTION WITH

T-J CYLINDERS



Harness T-J Cylinders to your tough jobs of power movement—to improve performance and speed production!

For presses—clutches—hoists—furnace and oven doors—material handling equipment—shears—damper regulation—and scores of other jobs where pushing, pulling or lifting is needed, use T-J Air and Hydraulic Cylinders! Available in many standard sizes and styles . . . both cushioned and non-cushioned types . . . for 100-lb. or 50,000-lb. power movement in any direction. Write for catalogs. The Tomkins-Johnson Co., Jackson, Mich.

FOR TOUGH JOBS...SPECIFY T-J

TOMKINS-JOHNSON

AIR AND HYDRAULIC CYLINDERS

▲ Mention Item NED-5898 when writing ▲

Photo Courtesy of Crosley Radio Corporation

4 reasons why

KESTER CORED SOLDERS

ARE INDUSTRY'S STANDARD

1. Kester Cored Solders are scientifically compounded to form clean, tight solder-bonds that hold *permanently* against shock, vibration, bending, and the contraction and expansion of temperature extremes.
2. Kester Cored Solders are applied in one simple operation. Virtually mistake-proof and trouble-free because the flux-filled core is perfectly balanced with superior alloys—and in the right combinations for every type of soldering.
3. Kester Cored Solders are of the highest quality and unvarying uniformity—the result of Kester's 46 years of practical experience and intensive research.
4. *Kester Rosin-Core Solder*, for electrical connections, and *Kester Acid-Core Solder*, for general work, are both available in a wide range of strand and core sizes. The correct solder, always, for any soldering job.

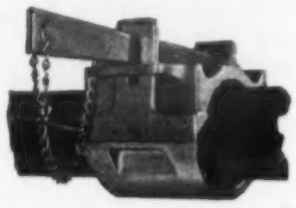
KESTER SOLDER COMPANY
4249 Wrightwood Avenue, Chicago 39, Illinois
Eastern Plant: Newark, N.J. Canadian Plant: Brantford, Ont.

KESTER *Cored Solders*
STANDARD FOR INDUSTRY

▲ Mention Item NED-5899 when writing ▲

THREADLESS PIPE COUPLER

Fast, low cost coupling of pipe is possible through use of Presto-Lock couplings which are made in eleven sizes ranging from 1¼ to 16 inches in diameter. These devices are used with plain-end pipe without threads, grooves or flanges. No wrenches or special tools are needed. Hammer is used to tighten wedge keys after two sections are fitted over pipe ends and wedge keys have been inserted in key channels.



Sections are corrosion-resistant malleable iron castings. Sizes of 1¼, 1½, 2, 2½ and 3 inches have single wedge key and chain assembly to prevent loss of coupling parts. Sizes from 4 to 16 inches utilize two wedge keys, but have no chain assembly.

Gaskets effect permanently tight seal on all types of pipe lines. Synthetic rubber, neoprene and natural rubber gaskets can be furnished to meet needs of fluid being handled. Tests have shown that couplings provide up to 40-degree flexibility at joint without leakage. They can be used also for repairing any size of pipeline leak that unit will cover. They will withstand all normal working pressures of gas, steam, oil and water.

Plugged or frozen lines can be released instantly by tap on wedge key. Section of line can be removed or replaced quickly. All coupling parts are salvageable and can be reused. Gaskets can be replaced readily when they become worn. Made by **Drinkwater, Inc.**, 2326 S. Michigan Ave., Chicago 16, Ill.

▲ Mention Item NED-5900 when writing ▲

PORTABLE HAND TACHOMETER

Multirange type 25A electric hand tachometer measures rotational and linear speeds without use of gears or gear shifts. Tachometer head consists of rotating shaft carrying mechanism to make and break set of contacts. These are connected to indicating unit by electric cable. Rotational speeds can be measured in ranges of 100-2000, 100-4000 and 100-10,000 revolutions per minute. Indicating unit is comprised of reactance circuits and metering circuit arranged so that reading on indicating instrument is directly proportional to speed of rotation of shaft in tachometer head. Accurate discs can be furnished for measuring linear speeds up to 10,000 feet per minute.

Variations in cable length do not affect calibration. Usually 22-inch cable is furnished, but it can be any length up to several hundred feet. By means of selector switch, any number of heads can be used with single indicating unit and any number of indicating units can be attached to single head. Continuously recording models and fixed installations are available. Accuracy is not affected by magnetic fields or machine vibration and unit cannot be damaged by overspeeding. Low driving torque insures accurate speed indications on low power machines. Made by **Metron Instrument Co.**, 436 Lincoln St., Denver 9, Colo.

▲ Mention Item NED-5901 when writing ▲

Trowels to a smooth, level, seamless finish

SELBALITH stays rigidly anchored to new or old wood, concrete or steel. Installations on record have withstood heavy traffic for as much as twenty years without chipping or cracking.

Resilient, flexible, fireproof, sanitary, vermin proof. Easily maintained, resists water, levels the floor.

Licensed contractors who have skilled mechanics install SELBALITH. Write for literature and for address of contractor nearest you.

ADDRESS INQUIRIES TO DEPT. 108

FOR OUTSTANDING ACHIEVEMENT

SELBY, BATTERSBY & COMPANY
WILFORD BUILDING, 1338 ARCH STREETS PHILADELPHIA 4 PA

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WHY JONES TACHOMETERS INCREASE PRODUCTION LOWER COSTS

Machines need not operate below peak productive capacity. Jones Portable Hand Tachometers give quick reliable checks on RPM, feet per minute, total output, and other essential production information, allowing you to run your machines at top desirable operating speeds, increasing production and lowering costs. Easy to use—foolproof. Continuous indicating, guaranteed calibration; lightweight and heavy duty. Complete with 4" extension rod, convex and concave rubber tips and steel tip, 12" circ. peripheral disc and carrying case . . . $60 FOB Stamford, Conn.

JONES MOTROLA CORP.
439 Fairfield Ave. Stamford, Conn.

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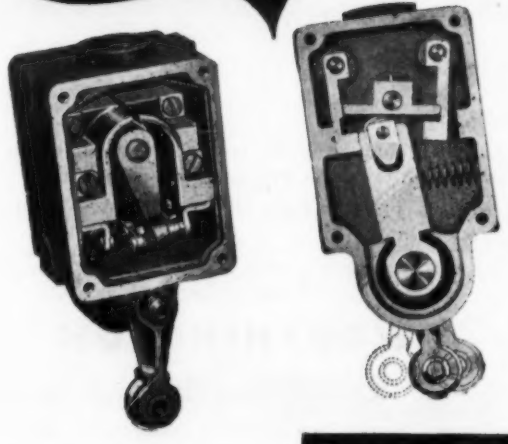
LOOK INSIDE for the reason



SNAP-LOCK TRADE MARK

Look at the electrical side—wide contact gaps, pure silver contacts, wiping action prevents corrosion, double insulation, ample wiring space, sure make and break.

Look at the mechanical side—heavy construction, positive locking, hardened steel shaft and lever, anti-friction bronze bushings, multiple overtravel springs, meets all shock and long-life tests.

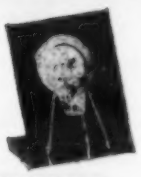
Those are the reasons why more than 80% of all machine tool builders are using Snap-Lock Limit Switches.

Wide variety of standard applications, or may be engineered for the particular job. Get details in Bulletin EM-42.

NATIONAL ACME
CLEVELAND, OHIO

▲ Mention Item NED-5904 when writing ▲

PRECISION MEASUREMENT of STIFFNESS *for*



Thin Metallic Sheet, Wire, Plastic Sheet, Paper and Paper Board and Other Flexible Materials

The Taber V-5 Stiffness Gauge brings to laboratories and testing departments an accurate, scientific practical method for measuring both the initial and normal stiffness of a wide variety of thin, flexible materials. It also permits the evaluation of their elastic or spring-like properties. The instrument is precision built, simple to operate. Light weight and portable. Motor driven — 115 volts.

TESTING DATA
This illustrated brochure gives full details on the instrument and how it is used. Write for free copy.

TABER INSTRUMENT CORP.
111 ND GOUNDRY STREET
NORTH TONAWANDA, NEW YORK

Taber V-5 STIFFNESS GAUGE

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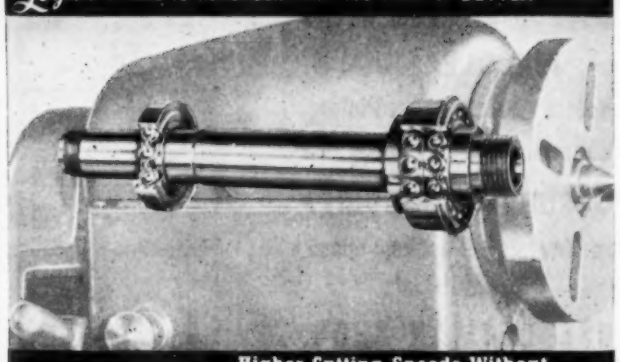
The most popular Machine Tool Drive *today!*

Why? Because LIMA GEARSHIFT DRIVES in sizes from ½ to 20 hp are Designed and Built to meet demands for increased production and are adaptable as an integral part to either New or Used Machines. Wire or write today for bulletins, or factory recommendations. Now available for early delivery.

THE LIMA ELECTRIC MOTOR CO.
319 Findlay Road
LIMA, OHIO
REPRESENTATION IN MOST PRINCIPAL CITIES
LIMA GEARSHIFT DRIVES
LIMA PEDESTAL GRINDERS — LIMA ELECTRIC MOTORS

▲ Mention Item NED-5906 when writing ▲

Logan A NAME TO REMEMBER WHEN YOU THINK OF BETTER LATHES



No. 825
Cabinet Model
Quick Change
Gear Lathe

SPECIFICATIONS common to all Logan Lathes: Swing over bed, 10-1/2". Bed width across ways, 6-15/16". Bed length, 43-1/8". Size of hole through spindle, 25/32". Spindle nose diameter and threads per inch, 1-1/2"—8. 12 Spindle speeds, 30 to 1450 r.p.m.. Size of motor, 1/3 or 1/2 h.p., 1750 r.p.m.: Preloaded precision ball bearing spindle mounting; Drum type reversing motor switch and cord: Precision ground ways, 2 prismatic "V" ways, and 2 flat ways.

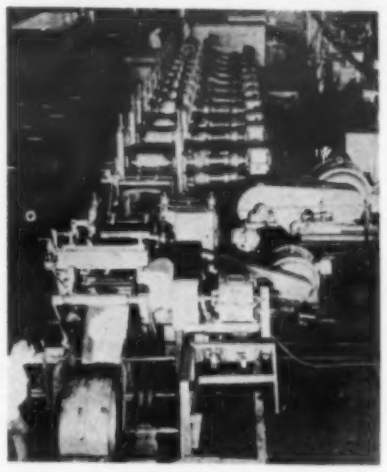
Higher Cutting Speeds Without Bearing Adjustment on *Logan* LATHES

THE pre-loaded ball bearing spindle mounting is one of many features which make Logan Lathes specially adapted to the needs of modern shops. With resulting increased spindle speeds, full advantage can be taken of high speed carbide cutting tools. No bearing adjustment required within full range of Logan spindle speeds, from 30 r.p.m. to 1450 r.p.m., regardless of cut. Thus the precise factory alignment of the Logan spindle is not disturbed by periodic bearing adjustments, and original spindle accuracy is sustained. Grease-sealed, the ball bearings require no further lubrication or attention throughout their long service life. Write for Logan catalog.

LOGAN ENGINEERING CO.
CHICAGO 30, ILLINOIS F-4

▲ Mention Item NED-5907 when writing ▲

TUBE MILL

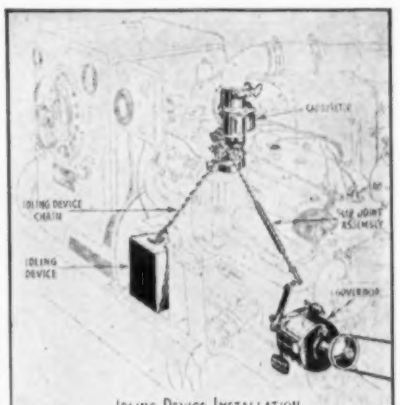


Producing tubing at rate of approximately 85 feet per minute, tube mill consists of coil box with driven uncoiling rolls and pinch roll stand to feed steel strip to leveler. Five-roll leveler levels strip for edge trimming. To facilitate welding, edges are shot blasted. Eleven-stand forming mill forms strip into tubing which then passes successively through large 750-kilovolt-ampere alternating current resistance welder and cooling, sizing, straightening and flying cutoff units. Complete equipment includes hydrostatic testing machine, double end burring, washing, drying and painting machines, threaders, conveyors and other units.

Illustration shows tube mill for production of 6-inch pipe used by Armed Forces for transporting gasoline, oil and water to front lines. Similar mills are made in sizes to make tubing from ¼-inch to 24 inches in outside diameter. With individual roll forming equipment for each size, several standard sizes can be made on one mill. Made by **Yoder Co.**, 5501 Walworth Ave., Cleveland 2, O.

▲ Mention Item NED-5908 when writing ▲

IDLING DEVICE FOR WELDERS



IDLING DEVICE INSTALLATION
FIG. 1

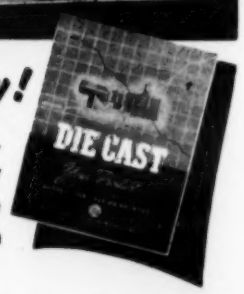
To save gasoline and prolong engine life, FW - 1400 mercury - type idling device automatically shuts down engine of arc welders to idling speed 12 to 15 seconds after operator has stopped welding. To bring engine to normal welding speed operator strikes an arc. Idling device and governor are linked with throttle in such manner that device can close throttle without having to resist governor action. When welding, governor controls engine speed without interference from idling device. Device can be made inoperative by opening off-and-on toggle switch. When welding stops, mercury time delay switch remains closed for 12 to 15 seconds, then opens allowing current to flow through solenoid coil. This causes solenoid to operate and close throttle to idling position.

Device is enclosed in compact metal box. It is installed by connecting idling device chain to carburetor and adjusting chain to close butterfly at top of stroke of solenoid. Governor to carburetor rod is replaced with rod of same length containing slip joint. Coil of mercury relay is connected across interpoles and series windings, and solenoid is connected across 6-volt battery. Made by **Hobart Bros. Co.**, Hobart Sq., Troy 1, O.

▲ Mention Item NED-5909 when writing ▲

DIE CASTING *Package Plan*

Send for facts now!



New brochure now available. Full of facts to show you how to cut your costs by using die casting as a machine tool in your production line.

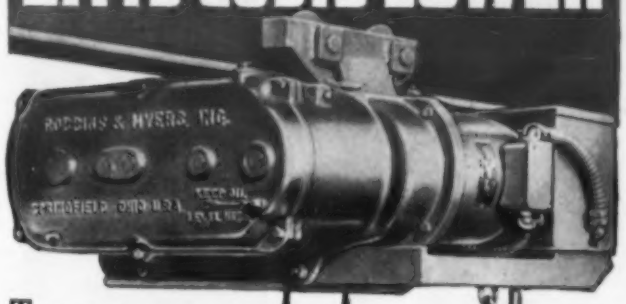
Advancements during the war are the basis for the new Harvill High Pressure Machine . . . proven in production . . . now ready to save as much as 80% in your product.

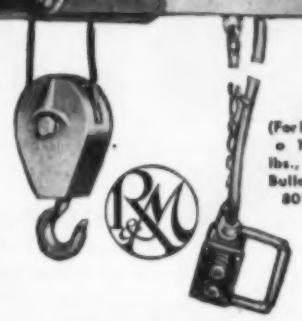
WRITE FOR NEW CATALOGUE TODAY ON FIRM LETTERHEAD.

H. L. HARVILL MFG. CO.
POST OFFICE BOX 335-L • VERNON, CALIFORNIA

▲ Mention Item NED-5910 when writing ▲

Lifts Costs LOWER





This is Type F½, a speedy, low-headroom, welded-steel-frame hoist for loads up to one ton. Simple, sturdy construction includes a fully enclosed, splash-lubricated, alloy-steel gear train, and oversize automatic load brake. Quality-built throughout in all mounting types for long life. Send for Bulletin No. 800NED.

(For loads up to 15,000 lbs., ask for Bulletin No. 801NED)

R & M Electric Hoists make light of muscle-tiring tasks; keep everything orderly and on the move for volume at a profit. In the hundreds of durable, dependable models there is one exactly right for every job. Send for literature. Representatives in 25 cities are at your service.

ROBBINS & MYERS, INC.
HOIST & CRANE DIVISION, SPRINGFIELD, OHIO

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PLY-GARB

The Safety Clothing with a Pedigree

FASTEST SELLING SAFETY CLOTHING in industry

Ideal for workers who require light-weight garments with freedom of movement. Exclusive plastic-coated miracle fabric prevents cracking or peeling. Economical to use, easy to launder. PLY-GARB meets every need in industrial protective clothing.

PROVED PROTECTION against OILS, ACIDS, WATER, CAUSTICS, DUST and FUMES
Flameproof, too!

EVERY TYPE of CLOTHING for MEN and WOMEN
APRONS • SLEEVES
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Also Custom-Designed PLY-GARB to your specifications

Send Your Name on Company Letterhead for newest PLY-GARB CATALOG

THE MILBURN COMPANY
3246 E. Woodbridge
Detroit 7, Michigan

PIONEERS OF SKIN PROTECTION IN INDUSTRY

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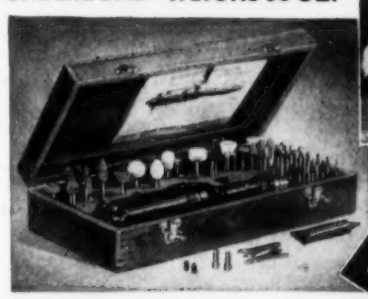
MORE POWER MORE SPEED

1/6 H.P. AND 35,000 R.P.M.
***UNDER LOAD* • WEIGHS 35 OZ.**



GUARANTEED SHOCK-PROOF ON AC OR DC WITHOUT GROUND WIRE

PRECISE *Thirty-five*

• In the Army, the Navy, the Air Corps, as in industry, PRECISE 35 has set a new record for power, speed and utility. Specifically, it packs *twice* the power and *twice* the *under-load* speed of any other tool in its class.

Every plant, every maintenance department, every shop, ship and plane should have PRECISE 35 for faster, smoother work on steel, non-ferrous metals, plastics, glass, wood, and most other materials. Higher speeds under load reduce frictional wear on cutting tools by as much as 200%.

Lightweight, durable plastic case fits the hand. Tool mounts in stand, vise, lathe, or milling machine; for close jobs attach COOLFLEX Flexible Shaft.

GRINDS
MILLS
DEBURRS
ENGRAVES
POLISHES
FINISHES

FACTS AND FIGURES
PRECISE 35

SEND FOR THIS 20-PAGE BOOKLET ▶

PRECISE PRODUCTS CO.
1346 CLARK ST. • RACINE, WIS.

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CLEVELAND Top Quality Set Screws

CLEVELAND Set Screws meet your most rigid requirements. They're made to close tolerances, carefully case hardened. Wide range of styles and sizes in square head and headless. Write for samples and prices.

CLEVELAND Top Quality FASTENERS

THE CLEVELAND CAP SCREW COMPANY
2917 EAST 79TH STREET • CLEVELAND 4, OHIO
Warehouses: Chicago, Philadelphia, New York, Los Angeles
Ask your Jobber for Cleveland Fasteners

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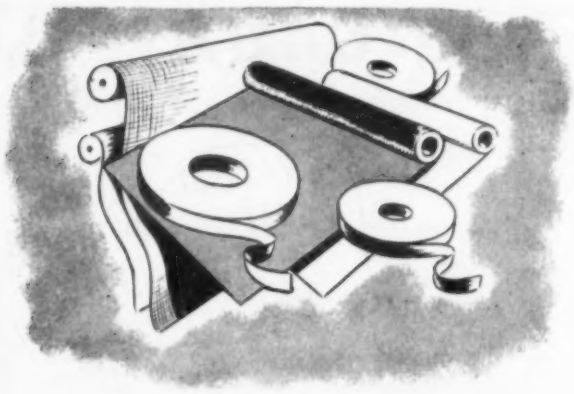

NOW AVAILABLE...

Silicone Fiberglas Cloth...

A High-Temperature Insulation Material

The combination of silicone resin and Fiberglas* provides the manufacturer or repair company with an excellent insulation material designed for use where high ambient, and high operating temperatures are encountered. This insulation more nearly approaches the temperature range of inorganic insulation material. Furthermore, this material has the ability to withstand the heat generated inside of windings and to dissipate the excess temperatures of "hot spots."

SAVES MATERIAL

Equipment can be made smaller because it is possible to use a thinner Fiberglas textile than ordinary textile to provide the same insulation. Smaller equipment that maintains the same ratings means less weight and lower cost in material. When used for portable tools, etc., it means less operator fatigue.

LARGE SELECTION AVAILABLE

This material is available in thicknesses of 4, 7, 10, and 12 mils. It can be purchased in rolls 36" wide or tapes cut to specified widths in 36-yard rolls.

You can order directly from Mica Insulator Company's conveniently located sales offices.

UNBIASED RECOMMENDATIONS

Because Mica Insulator Company carries a complete line of all types of insulating materials, you can obtain unbiased recommendations that help solve insulation problems.

*Reg. Trademark Owens-Corning Fiberglas Corp.

Mica Insulator Company
200 VARICK STREET • NEW YORK 14, N. Y.

SALES OFFICES:
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Detroit: Book Building • Cincinnati: 3403 Hazelwood Avenue • Boston: 285 Columbus Avenue • Houston: Bakering, Inc., 1020 Houston Avenue

WEST COAST DISTRIBUTOR:
The Triangle-Pacific Company at—Los Angeles: 340 Azusa Street
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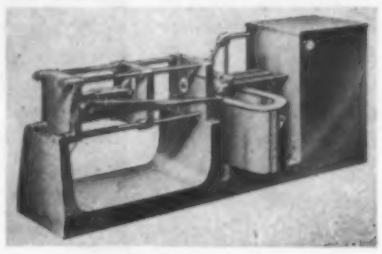
▲ Mention Item NED-5918 when writing ▲

DIE CASTING MACHINES



Four basic models of die casting machines have been developed to cover full range of die casting requirements. They range from simple manual die opening and closing machine in which air injection is employed to fully automatic cold chamber machine for high production of aluminum, magnesium and bronze alloy die castings.

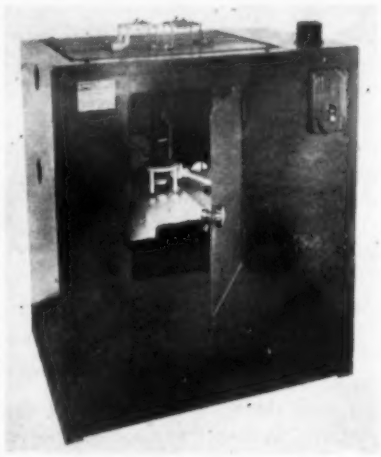
First machine in this series is model HD-1AM1 for casting tin, lead and zinc alloys. It is adaptable for production of small to medium size castings. Metal injection and operating features found in larger machines are used, except that operation of movable die platen is accomplished by hand lever. Production output of up to 400 cycles per hour is possible, depending upon efficiency of personnel operating machine.

Dies having vertical dimension of 8 inches and horizontal dimension of 12 inches can be accommodated. Travel of movable platen permits dimension of 6¾ inches between die faces, dies having approximate thickness of 14 inches.

Metal injection is accomplished by horizontal ram. Continuous feed from oil or gas fired furnace is integral part of machine to supply injection chamber with molten metal. Each shot injects up to 3 pounds of zinc under normal circumstances; maximum in case of oversize dies is 6.1 pounds of zinc. Using small piston, pressure of 1200 pounds per square inch is exerted. Using large piston, minimum pressure is 600 pounds per square inch. Impetus to injection ram is provided by compressed air. Made by H. L. Harvill Mfg. Co., Box 335-P, Vernon, Calif.

▲ Mention Item NED-5919 when writing ▲

FATIGUE TESTING MACHINE



Having alternating force capacity of 100 pounds, fatigue testing machine is suited to testing plastics, plywood and light sheet metals. It is also adaptable for testing structural components and machine parts in both repeated bending and repeated torsion.

Any predetermined alternating load is kept constant automatically regardless of changes of deflection that occur in specimen under test. Capacity of machine can be adjusted in increments of 0.2-pound. Speed is 1800 load cycles per minute. Maximum capacity in bending is 200 inch-pounds and in torsion is 1125 inch-pounds.

Machine tests plastics with thickness up to ½-inch, aluminum alloys to 3/16-inch and steel to 1/8-inch. Ample space is provided for testing bulky assemblies and tester is adjusted easily for various specimen sizes. Tapped holes and T-slots in platens accommodate special fixtures. Made by Southwark Div., Baldwin Locomotive Works, 942 Chester Pike, Eddystone, Pa.

▲ Mention Item NED-5920 when writing ▲

EVER-LOK

WATERTIGHT

EVER-LOK
and watertight receptacles

Specified by architects and engineers for outdoor, hazardous areas where the locking and safety features are essential.

Can be furnished to fit boxes now installed or can be supplied in single or gang type boxes.

EVER-LOK and watertight fittings range from two to four pole, 10 to 200 amperes and two to eleven pole for signal control service.

Since 1902

RUSSELL & STOLL COMPANY
EXPLOSION-PROOF WATER-TIGHT AND EVER-LOK RECEPTACLES, PLUGS, CONNECTORS, SWITCHES AND FIXTURES
125 BARCLAY STREET • NEW YORK 7, N. Y.

27

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PERFECT YOUR POST-WAR PRODUCTS WITH DIALCO

Functional-Design
PILOT LIGHT ASSEMBLIES
HOUSING NEON OR MAZDA LAMPS

GREATER emphasis on *functional* design is the trend in post-war engineering of Electrical-Electronic Products. Mindful of this fact, Dialco has produced a line of Pilot Lights calculated to meet readily all post-war requirements. Comprising Warning-and-Signal Pilot Lights, Panel Lights, Jewel Assemblies, and Socket Assemblies, the Dialco line offers unlimited variations in functional design, size, shape, electrical characteristics, color, finish, etc. Special emphasis on applications of NEON Glow Lamps.

DIALCO

Let our Engineering Dept. help you select the *Pilot Light best suited to the functional design of your post-war product.*

PLUS LAMPS: To help speed production, we offer Pilot Lights completely assembled with the required General Electric or Westinghouse Lamps.

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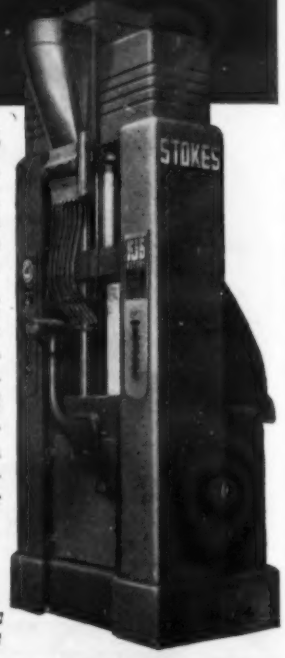
New STOKES 50-Ton Hydraulic
Completely Automatic
PLASTICS MOLDING MACHINE

• LARGER PIECES
• HIGH SPEED OPERATION
• LOWER MOLDING COST



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Mold Automatically . . . to save time, labor, material, mold cost, inventory . . . to produce identical parts, of highest quality, in large or small quantities, at lowest cost.

One man operates a score of presses. Patented Automatic Cycle Controller times every operation. Human errors are eliminated. Capacity to 48 cu. in. of molding powder. High-speed operation, with final compression speed adjustable to flow characteristics of material. Many other outstanding features.

Write for further information.

F. J. STOKES MACHINE CO.
5964 Tabor Road, Philadelphia 20, Pa.

F.J.Stokes MOLDING EQUIPMENT

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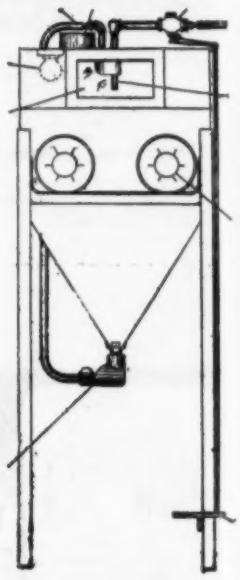
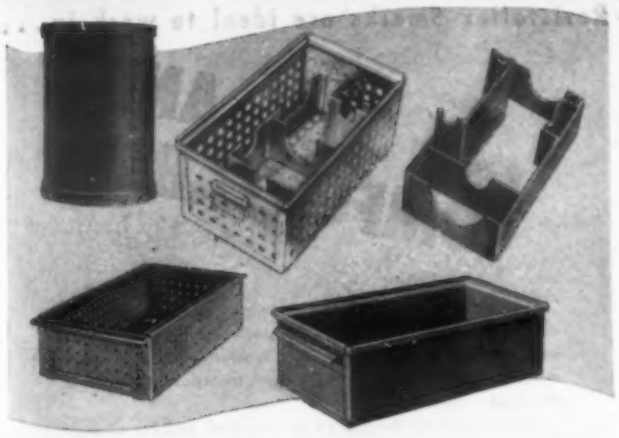
SATIN FINISHING AND CLEANING
Before Machining, Plating, Enameling or Painting on
Castings, Stampings
In Metals, Plastics, Glass, All Materials
USE LEIMAN BROS.
SAND BLAST
Continuous Feed of Abrasives



LARGE AND SMALL MODELS
FOR SLOW OR RAPID PRODUCTION

LEIMAN BROS. 167B Christie St. NEWARK 5, N. J.

▲ Mention Item NED-5924 when writing ▲



Cleveland **CUSTOM-BUILT Shop Containers**

will help step up man and machine productivity, because made to fit your individual needs. Cost-minded production men don't overlook their infinite possibilities for cutting corners in many operations.

Many valuable new ideas contained in our catalog. Ask for it.

STEEL FACTORY EQUIPMENT DIVISION
Cleveland Wire Spring Co.
5250 BROOKPARK RD. • CLEVELAND 9, OHIO

▲ Mention Item NED-5925 when writing ▲

ELECTRIC MOTOR
Reconversion Inventory Kit!

***FREE*-SEND FOR YOURS NOW!**

You can now make a quick, accurate check of your electric motors by using Allis-Chalmers' new Reconversion Inventory Kit — a complete set of Fact Sheets and Check Lists which answer such important questions as . . .

☛ Are my electric motors okay *as is?* Will they *shortly* require replacement?

☛ How can I tell when motors in the plant need repairs or new parts?

☛ What factors must be taken into consideration in deciding if motors should be reapplied?

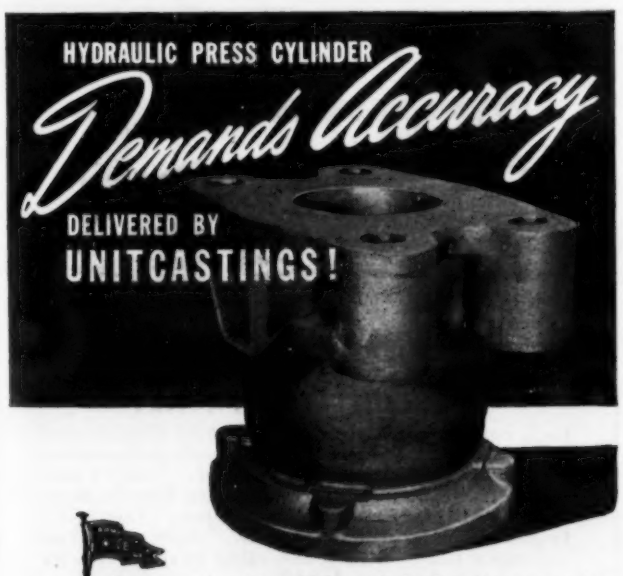
To Get Your FREE *Reconversion Inventory Kit, covering motors, pumps, V-belt drives, call your nearest A-C office or dealer, or write Department 451 . . .*

A 1898

ALLIS-CHALMERS
MILWAUKEE·WISCONSIN

▲ Mention Item NED-5926 when writing ▲

HYDRAULIC PRESS CYLINDER
Demands Accuracy
DELIVERED BY
UNITCASTINGS!



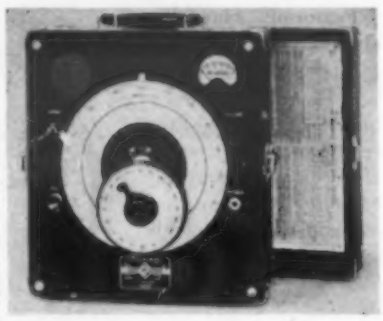
Accuracy is a MUST for this hydraulic press cylinder—produced to close tolerances of precision at Unitcast! This 1500 lb. steel casting is made in two parts—the cylinder body is then welded to the base. This method assures the high degree of uniformity and strength to withstand high pressures with long-life performance. In your plans for better products—specify Unitcastings! Our modern plants, geared to automatic accuracy, assure better castings and lower cost. Write . . . send blueprints.

Unitcast Corporation, Toledo, Ohio.

UNITCAST CORPORATION
ALLOY AND CARBON ELECTRIC STEEL CASTINGS

▲ Mention Item NED-5927 when writing ▲

HIGH FREQUENCY METER



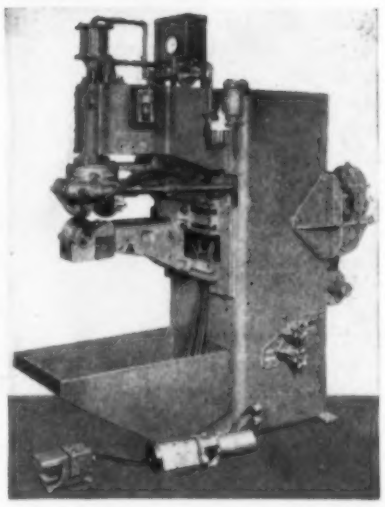
Compact, portable and battery operated, type 720-A heterodyne frequency meter is designed for frequency measurements between 10 and 3000 megacycles. Internal oscillator covers frequency range of 100 to 200 megacycles. For frequencies below 100 megacycles, harmonics of unknown frequency are made to produce beats with internal oscillator. For frequencies above 200 megacycles, harmonics of internal oscillator produce beats with unknown frequency.

Internal oscillator uses newly developed butterfly circuit in which capacitance and inductance are varied simultaneously. Because no sliding contacts are used and no current is carried in bearings, smooth and stable adjustment of frequency can be made over entire range.

Detector is silicon crystal which is mounted so that it is accessible for replacement. Three-stage audio frequency amplifier is included, having effective band width of 50 kilocycles. Output of amplifier operates panel meter and built-in loud speaker. Jack is provided for head phones. Operating instructions are mounted in cover of cabinet. Pickup obtained by adjustable antenna on panel is usually adequate, but provision is made for use of additional pickup wire, if it is needed. Made by **General Radio Co., 275 Massachusetts Ave., Cambridge 39, Mass.**

▲ Mention Item NED-5928 when writing ▲

LIGHT DUTY SEAM WELDER



Capable of speeds up to 20 feet per minute on two thicknesses of clean mild steel from 30 to 18 gage, model No. 6 Thomson seam welder has wide range of applications. It can be used for circular or longitudinal welds or as universal machine with swiveling upper head and interchangeable lower arm for conversion from circular to longitudinal seaming. Machines with various throat depths and transformer capacities are available.

Welding wheels can be gear or knurl driven and drive can be applied to either upper or lower, or to both wheels. Illustrated model has worm reduction, motor drive and series-parallel 16-point heat regulator. Separate water cooling circuits are provided for transformer, upper welding shaft, head, lead bracket, lower welding arm and bracket. Electronic timing control permits uniform production welding. Made by **Thomson-Gibb Electric Welding Co., Lynn, Mass.**

▲ Mention Item NED-5929 when writing ▲

MODERNIZE OLD ELEVATORS
with Oildraulic Equipment

CONVERT OLD OVERHEAD ELECTRICS OR WATER HYDRAULICS INTO NEW TYPE ELEVATORS

No need to put up with worn-out, undependable elevator equipment that is slow or makes inaccurate landing stops.

If your car is in good shape all you need is an Oildraulic jack (plunger), a modern Rotary Power Unit and a suitable control system.

This modern Rotary conversion plan can be used effectively on old overhead electric machines, hand pull-rope elevators or straight water hydraulics, if the service does not exceed 4 floors.

Very little, if any, hatchway work is necessary. You will be thoroughly satisfied with the smooth, dependable and accurate performance of an Oildraulic.

Write For Free Catalog

Ask for RE-301. In writing please describe your present equipment so our distributor (in all key cities) can offer definite recommendations.

ROTARY LIFT COMPANY
1055 Kansas • Memphis (2), Tenn.

Rotary
OILDRAULIC ELEVATORS

▲ Mention Item NED-5930 when writing ▲

No maintenance problem with FEDERAL HORNS... SIRENS

RESONATING HORN

HIGH POWER VIBRATORY HORN

INDUSTRIAL SIREN

Federal signals are built to last, with a minimum of maintenance. Housings are non-corrodible metal, weather and water-tight; adjustments are made to stay.

No. 55 Resonating Horn (at top) has a powerful, penetrating tone recognizable over other sounds. Projector on the No. 32 High Power Vibratory Horn (center) can be turned in any direction. Both these horns have a quick cut-off, may be used for fast code signals.

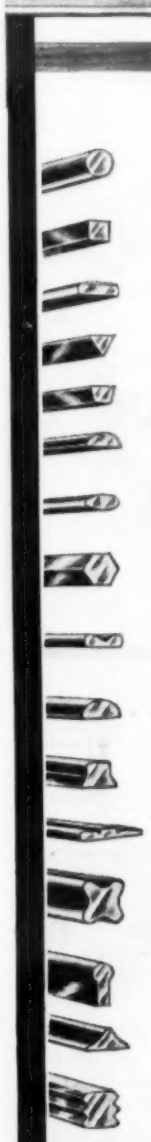
Type D Siren (bottom) has a ½-hp. motor, a deep, powerful rising pitch. All are precision built for long-life dependability.

GET THIS BOOK FREE!
Details, illustrations, and prices on this and other Federal sirens and horns. *Write today.*

FEDERAL ELECTRIC COMPANY, INC.
SIGNALS HEADQUARTERS
8780 South State Street, Chicago 19, Ill.

▲ Mention Item NED-5931 when writing ▲

PAGE *Shaped* WIRE
to Your Specifications!



"You Draw the Shape—
PAGE Can Draw the Wire"

PAGE shaped wire is now serving Industry in hundreds of ways. New uses are constantly being found. Every new application means simplified manufacturing, improved products, lower production costs.

Today PAGE offers you the benefit of many years of experience in the use of wire in fabrication. PAGE can advise you how to use wire, recommend what kind to use, provide the wire. For wire or information about wire,

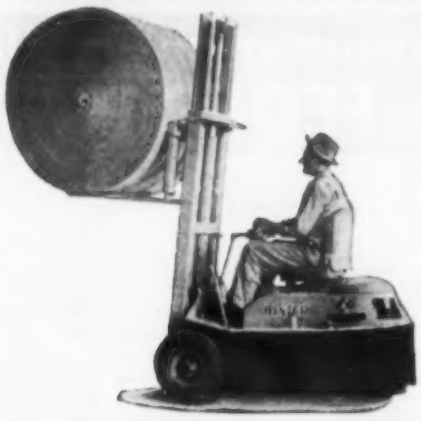
Get in touch with Page!

PAGE offers wire of high and low carbon steels, various analyses of stainless steel, Armco ingot iron and special alloys in a wide range of tempers and finishes; section areas to .250" square, widths to ⅜"; packaged in coils or straight lengths to meet your requirements.

ACCO Monessen, Pa., Atlanta, Chicago, Denver, Los Angeles, New York, Pittsburgh, Portland, San Francisco, Bridgeport, Conn.

PAGE STEEL AND WIRE DIVISION
AMERICAN CHAIN & CABLE

▲ Mention Item NED-5932 when writing ▲



In a Class by Itself

This modern HYSTER 20 leads the field in the one ton fork lift truck class. It's compact, sturdy, powerful. Pneumatic tires take it anywhere; indoors and out; up and down ramps; into box cars. It lifts, tilts, unloads—FAST. Saves time, labor, money. Write or catalog.

HYSTER COMPANY
2906 N. E. Clackamas, PORTLAND 8, OREGON
1806 North Adams, PEORIA 1, ILLINOIS

▲ Mention Item NED-5933 when writing ▲

DIAL THERMOMETER

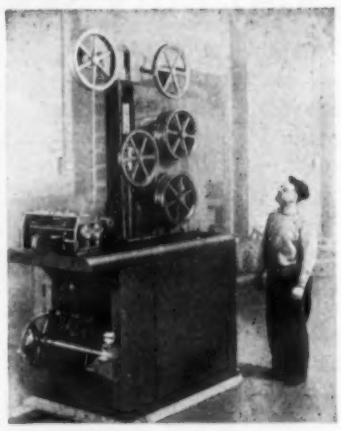
Featuring bimetallic element, this dial thermometer is claimed to be permanently calibrated, accurate and responsive to temperature changes. Precision bimetallic coil measuring element has case of alloy steel in most sizes. Stainless steel nut and stem are used. Large, easily read numerals and graduations are employed on metal dial. Unbreakable glass crystal can be supplied.

Expansion of bimetallic coil rotates attached small shaft and indicating pointer over entire scale range. Various standard arrangements are available between limits of —90 and 1000 degrees Fahr. Test or laboratory thermometers are graduated in both centigrade and fahrenheit on same scale. Temperatures 50 per cent in excess of scale maximum can be withstood without damage to units for ranges up to 500 degrees Fahr. and 10 per cent for those ranging up to 1000 degrees Fahr.

Available in 2, 3 and 6-inch sizes, instruments are installed easily by connecting ½-inch connection nut directly into point of service or into separable socket or other type of mounting accessory. Separable sockets are of high pressure type designed for universal service conditions and having 1 or 3/4-inch standard connections. Made by **Equipoise Controls**, Dept. NED, 342 Madison Ave., New York 17, N. Y.

▲ Mention Item NED-5935 when writing ▲

WIND-UP MACHINE



Maintaining constant speed and tension within variable production range, improved model wind-up machine (*see item NED-6627, Dec., 1943*) handles large diameter wire, cable, cords, rope, hose and other continuous materials. It winds flexible insulated wire and cable in diameters up to 1½ inches and other materials in comparable sizes.

Machine is complete self-contained unit. It is motor driven and requires no outside source of power or synchronization. Standard speed ranges are from 25 to 150, 40 to 200 and 60 to 240 feet per minute. Tension values are from 5 to 1000 pounds. Standard model employs 42-inch reel, but size to take 60-inch reel can be supplied. Input of horsepower varies with speed and tension attained.

Built originally to draw wire through saturating and lacquering system, machine is furnished as part of such system or as individual unit. Standard model with sheaves as illustrated is used for single reel take-up of cable after extrusion jacketing, braid saturation and cable stranding or bunching. Made by **Industrial Oven Engineering Co.**, 11621 Detroit Ave., Cleveland, O.

▲ Mention Item NED-5936 when writing ▲

Resistoflex Smocks are ideal to work in . . .

. . . SAFE AND COMFORTABLE

"Tops in comfort . . . tops in protection." That's what both men and women say about Resistoflex smocks. For these smocks — like all other Resistoflex Protective Clothing — are made with *compar*, the featherweight, transparent elastomer that looks and feels good.

Hard wear and Resistoflex go together, too. For compar is tough—stands up longer and is impervious to dermatitis-causing organic solvents, many other chemicals and all gases. Investigate Resistoflex Protective Clothing for your workers today. They require its *safety*. They'll enjoy its *comfort* and *style*.

• • •

RESISTOFLEX CLOTHING IS SOLD BY DISTRIBUTORS THROUGHOUT THE UNITED STATES

RESISTOFLEX

Resistoflex Corporation — Belleville 9, New Jersey

▲ Mention Item NED-5938 when writing ▲

RELIANCE V*S DRIVE

The V*S Drive provides slow speeds for threading material or setting up work—plus controlled acceleration and smooth speed changes over a wide range. Processing of .00025" aluminum foil is a typical application.

Write for Bulletin 311.

RELIANCE ELECTRIC & ENGINEERING COMPANY
1082 IVANHOE ROAD • CLEVELAND 10, OHIO
Sales Offices in Principal Cities

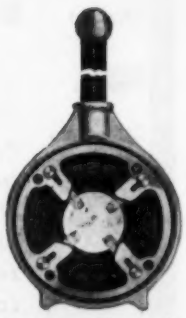
▲ Mention Item NED-5939 when writing ▲

Better THREADING WITH *Less* WORK

with this direct-action, non-wobbling

RIDGID

No. 1R POSTER



• You see its advantages the minute you compare this No. 1R with any other poster threader. The quick-set fool-proof workholder saves you time—and no bushings to bother with. Handle pulls head and dies directly—no indirect action over workholder—posts merely taper thread—no cockwobble, you thread faster with less effort, better threads. Alloy or high-speed steel chaser dies for 1" to 2" pipe. A rugged steel-and-malleable tool at popular price! If your Supply House is out of them, keep asking.

RIDGID
WORK-SAVER PIPE TOOLS
THE RIDGE TOOL COMPANY • ELYRIA, OHIO, U. S. A.

▲ Mention Item NED-5934 when writing ▲

GET THIS VALUABLE BOOK
On Temperature Control

MAILED TO YOU WITHOUT OBLIGATION

Before deciding on temperature regulating devices for your products, be sure to investigate Fenwal Thermoswitches. They operate on an unusual principle, and offer many advantages not found in other types of switches. The Fenwal Engineering Data Book contains detailed drawings of construction of various models and typical installations.

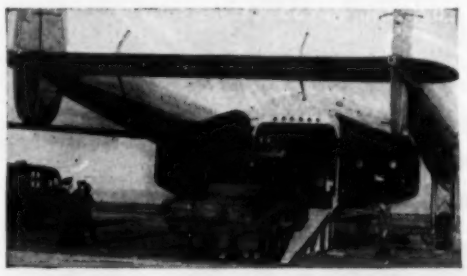
- Compact construction permits installation in tight places.
- Make and break unaffected by external vibration.
- Readily adjustable for wide range of temperature control.
- Minutely accurate.
- Adaptable for all types of media.
- Inexpensive.

Just write for your free copy on your business letterhead.

"IF IT'S A FENWAL — IT'S THE BEST OF ALL"

THERMOSWITCHES
Fenwal, Inc.
FOR COMPLETE TEMPERATURE CONTROL
31 Pleasant Street, Ashland, Massachusetts

▲ Mention Item NED-5937 when writing ▲



TORRINGTON NEEDLE BEARINGS CARRY HEAVY LOAD ON FAIRCHILD C-82 PACKET

Each component part of the Fairchild C-82 Packet (*shown above*) is designed for maximum performance at minimum cost in weight and size. "That's why we specified anti-friction Torrington Needle Bearings for all nacelle door cable pulleys," Fairchild's Engineering Department reports. "They are lighter and more compact than any other bearing capable of carrying the same load."

Would you like to know more about these and other Torrington Needle Bearing advantages in specific terms of *your* product? Our Catalog 32 shows the wide range of types, sizes, and proved-in-use applications. Why not write for your copy today?

THE TORRINGTON COMPANY
Torrington, Conn. *Established 1866* South Bend, Ind.
New York Boston Philadelphia Detroit Cleveland Seattle Chicago San Francisco Los Angeles Toronto London, England

TORRINGTON NEEDLE BEARINGS

▲ Mention Item NED-5940 when writing ▲

Northern
HI-LIFT ELECTRIC HOISTS
Stay on the Job

They stay on the job because they have the strength and construction quality. One piece welded frames—turned and ground shafts—large size roller bearings—machine cut heat treated gearing—splash lubrication. All parts readily accessible for maintenance that usually isn't needed.

Hi-Lift feature makes better use of headroom—capacities 1000 lbs. to 15 tons.

Low Headroom

Write for Literature

NORTHERN ENGINEERING WORKS, 2603 Atwater St., Detroit 7, Mich.

CRANES *Northern* HOISTS

▲ Mention Item NED-5941 when writing ▲

DAMAGE EXPELLER!... OUTPUT IMPELLER!

While using slotted screws, work-spoiling driver skids caused damage to plastic shades. Refinishing slowed production . . . spoilage boosted costs. Then the manufacturer changed to Phillips Recessed Head Screws. No more driver skids, no more damage. Power drivers could be used, speeding output. Costs came down and production went up!

PROBLEM DISPELLER!... SALES PROPELLER!

Phillips Recessed Head Screws take heavier driving pressures, give more strength and rigidity, often with the use of fewer screws. Screw-driving is faster and surer, permits assembly economies slotted screws can't touch. Phillips Recessed Head Screws are trimmer, smarter, with no unsightly burrs to cool off prospects. Make *good* merchandise look *better* with Phillips Screws.

It's Phillips
the engineered recess!

In the Phillips Recess, mechanical principles are so correctly applied that every angle, plane, and dimension contributes fully to screw-driving efficiency.

This scientific engineering eliminates screwdriver skids . . . makes it possible for workers to apply full turning power without reaming . . . gives Phillips Screw heads unusual strength. It is the reason Phillips Screws speed driving as much as 50% – and cut costs correspondingly.

To give workers a chance to do their best, plan faster, easier-driving Phillips Recessed Head Screws into your product now. They are available from 25 leading manufacturers of fastening devices.

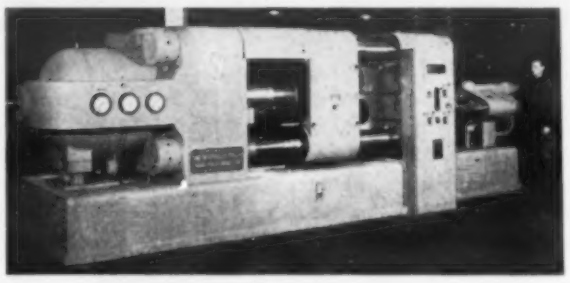
PHILLIPS *Recessed Head* **SCREWS**

Wood Screws • Machine Screws • Self-tapping Screws • Stove Bolts

▲ Mention Item NED-5942 when writing ▲

DIE CASTING MACHINE

Up to 14.88 pounds of aluminum alloy at injection pressure of 25,000 pounds per square inch are cast in single shot by this massive hydraulic high pressure die casting machine. This



weight represents a casting volume of 154½ cubic inches. All advantages of high pressure die casting can be obtained in these exceptionally large parts, it is claimed.

Mold clamp pressure is 1000 tons. Maximum mold mounting space measures 31 x 56 inches with maximum daylight opening between mold mounting surfaces of 48 inches. Maximum mold clamp travel is 24 inches. Maximum injection stroke is 18 inches. Machine is driven by 100-horsepower electric motor.

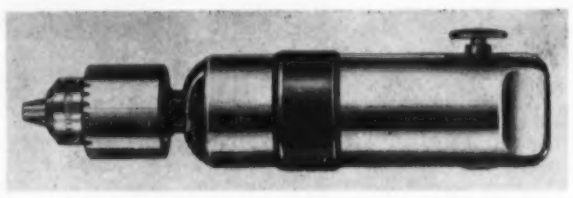
Mold clamp and injection plunger are actuated by direct hydraulic means. Machine is powered by two Hydro-Power radial pumps, directly coupled through flexible couplings to double-end shaft motor. Completely self-contained, machine requires only electric power and cooling water connections. Movable mold clamp platen is equipped with hydraulic ejector. Operating system is designed for installation of hydraulic core pulls. Made by **Hydraulic Press Mfg. Co., 100 Marion Rd., Mount Gilead, O.**

▲ Mention Item NED-5943 when writing ▲

PNEUMATIC DRILLS

Added to line of Aro pneumatic tools, eight drills are available in sizes from 3/16-inch to 1/4-inch capacity. They are especially suited to assembly operations. They are stallproof and light in weight.

Model 209 has button throttle and model 309 has lever throttle. Both have aluminum housing, weigh 1 pound 13 ounces and accommodate 3/16-inch or 1/4-inch chuck. These



are straight type drills developing 2500 revolutions per minute. Model 2013 is similar to 209 except that it has speed of 4000 revolutions per minute. Model 3013 is similar to 309, but has speed of 4000 revolutions per minute.

Model 2010 with button throttle and model 3010 with lever throttle operate at 2500 revolutions per minute. Both have aluminum housing and handle, weigh 2 pounds 1 ounce, and are equipped with 3/16-inch or 1/4-inch Jacobs chuck and chuck guard. Model 2014 is similar to model 2010 but develops 4000 revolutions per minute and model 3014 is similar to model 3010 and develops 4000 revolutions per minute. All models are equipped with 8 feet of 1/4-inch hose and 1/8-inch and 1/4-inch male fittings on ends. Made by **Aro Equipment Corp., Erie St., Bryan, O.**

▲ Mention Item NED-5944 when writing ▲

KRW *offers* VERSATILITY *and* ADAPTABILITY *in* HYDRAULIC ARBOR PRESSES

It took War's demands for speed and more speed to demonstrate the unusual versatility and adaptability of the KRW Hydraulic Arbor Press. In many cases, when other equipment was not immediately obtainable, we were called on to adapt our hydraulic arbor presses to save the day productionwise. All of these special presses incorporate the time-proven features of the standard KRW Hydraulic Arbor presses. They are now available... *BUILT TO ORDER* . . . for *2 to 3 week delivery* on all orders carrying a priority of AA-4 or better. If you have a problem that a special design press might solve, call us now. Write for our new bulletin describing KRW Hydraulic Presses in 25, 50, 60 and 75-ton capacities.

SINCE 1916 KRW A MARK OF DEPENDABILITY

K. R. WILSON
Dept. 5, 215 Main St., Buffalo 3, N. Y.

▲ Mention Item NED-5945 when writing ▲

KEEP PRODUCTION MOVING!
Use Macwhyte
LOOP-EYE Braided Wire Rope Slings

Check these LOOP-EYE advantages

1. Lightweight, flexible, easy-to-use.
2. Economical—no fittings required.
3. Use of endless ropes in braided body eliminates conventional eye splices.
4. Faster delivery than other slings because you don't have to wait for fittings.
5. Can be used in a basket hitch or an inverted hitch.

Sizes and strengths in the lengths you need

Write on your company letterhead for Macwhyte Sling Catalog and pictorial literature. Address Macwhyte Company or any of our distributors and mill depots near you. No. 815-S

MACWHYTE COMPANY
2934 Fourteenth Avenue Kenosha, Wisconsin

▲ Mention Item NED-5946 when writing ▲

THESE PACKING CUPS ARE
"Custom Tailored"
TO YOUR NEEDS

HERE'S a moulded packing cup that's fast replacing other materials on all types of slow-moving pistons operating against air, water, steam, oil, etc., under both high and low pressures.

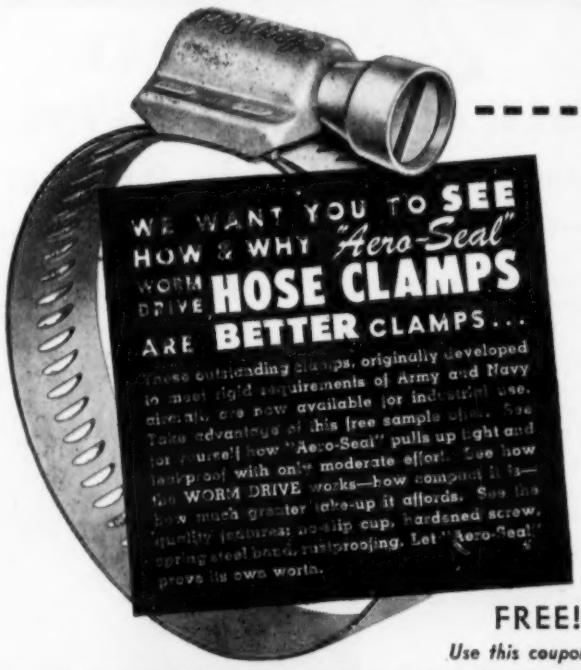
And, there's a good reason: it's a tailor-made product throughout. J-M Moulded Packing Cups are moulded to the exact shape and size required . . . constructed of materials that are selected to meet the particular conditions to be encountered.

The result is a packing cup that provides a positive seal with minimum friction . . . wears longer . . . and contributes to increased operating efficiency of equipment.

Two standard styles are illustrated—others are available. For full details, write Johns-Manville, 22 East 40th Street, New York 16, N. Y.

Johns-Manville *PACKINGS & GASKETS*

▲ Mention Item NED-5947 when writing ▲



FREE!
Use this coupon

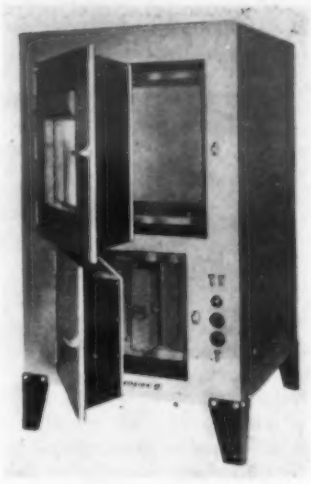
AIRCRAFT STANDARD PARTS CO., 1753 19th Ave., Rockford, Ill.
Please send me one sample "AERO-SEAL" Hose Clamp—Size .....
NAME .....
COMPANY ..... POSITION .....
ADDRESS .....
CITY ..... STATE .....

▲ Mention Item NED-5948 when writing ▲

AUDUBON WIRE CLOTH CORPORATION
Subsidiary of Manganese Steel Forge Co.
2803 CASTOR AVE., PHILADELPHIA, PA.

▲ Mention Item NED-5953 when writing ▲

COLD TESTING CABINET



Operating with dry ice, Vari-Temp cold cabinet, available in two sizes of 1 and 8 cubic foot capacities, provides cold testing conditions from minus 90 degrees Fahr. to plus 220 degrees Fahr. Vertical front opening door offers access to chamber, sufficiently large to hold apparatus used in making Young's Modulus test of natural and synthetic elastomers at normal and subnormal temperatures. Apparatus and specimens under test are visible at all times through seven-pane sealed window unit which prevents condensation and frosting. Shielded fluorescent light provides illumination. Thermometers and instruments in any part of chamber can be read easily from outside.

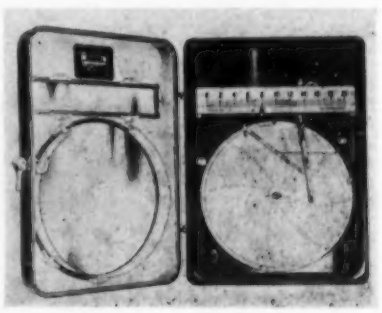
Constant temperature in specimen chamber is insured by air stirrer which holds temperature constant to plus or minus 1 degree Fahr. Blower circulates air to and from chamber.

Metal plates 4 inches wide and height of chamber are centered on each side, in rear and on top to provide facilities for mounting test apparatus. Holes can be drilled and tapped at these points to fasten apparatus securely.

Heavy gage tinned copper is used for all parts subject to corrosion resulting from condensation. To facilitate cleaning and provide for disposal of condensation, drains are supplied for both dry ice chamber and test chamber. Cabinet is finished in aluminum. Unit operates on 115-volt 60-cycle alternating current. Made by **Precision Scientific Co.**, 1738 N. Springfield Ave., Chicago 47, Ill.

▲ Mention Item NED-5956 when writing ▲

POTENTIOMETER CONTROLLER



Five basic control unit types are available in this series of electric potentiometer controllers. Three are of electric contact type to be known as Microact controllers and other two are electric proportioning and current input type units. These controls are mounted on internal panel of Bristol Pyromaster potentiometer recorder. Any type can be converted to any other type by following simple wiring and mounting instructions.

Units are provided with one, two and three precision type toggle switches respectively and six different terminal board connection arrangements to meet wide assortment of control circuit requirements. Proportioning controllers can be used with any type of electric proportioning valve and can be supplied with resetting contacts, if required. Proportional current input controller is designed primarily to provide close temperature control of electric furnaces and ovens. Made by **Bristol Co.**, Waterbury 91, Conn.

▲ Mention Item NED-5957 when writing ▲

REMOVE SNOW

WITH THIS HANDY "CLEAN-UP" UNIT!

Cleans walks, drives, loading docks, parking areas. Removes rubbish from plant floors. Piles coal, ashes, chemicals. Spreads material. Used in many plants. Send for bulletin.

THE BAKER MFG. CO.
519 Stanford Ave.
Springfield, Ill.

The Baker Baby Bulldozer

BULLDOZERS · SNOW PLOWS BAKER CONSTRUCTION EQUIPMENT

▲ Mention Item NED-5954 when writing ▲

New MANUAL METAL SHRINKER
for Fast, Accurate Metal Shrinking

Handles metals of .016" to .051" without adjustment.

Shrinks angles to a radius as small as 3". Shrinks angles up to 1" wide.

Reversible, hardened steel jaws provide double life.

Compact, portable — can be mounted on a bench stand or in a vise.

Price $53.50

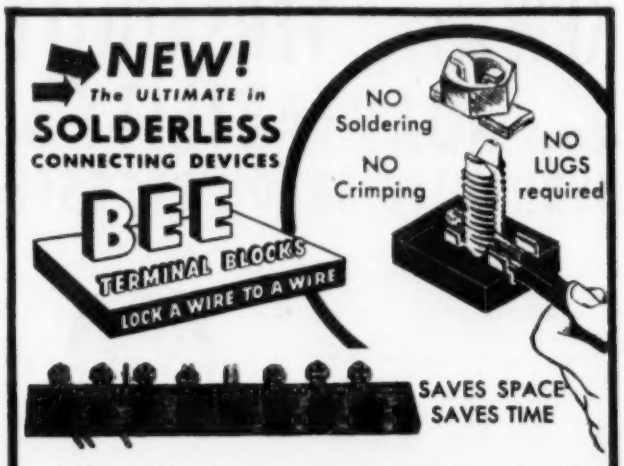
Write for FREE, illustrated bulletin.

C-B TOOL COMPANY, Lancaster, Pa.

▲ Mention Item NED-5955 when writing ▲

NEW! The ULTIMATE in SOLDERLESS CONNECTING DEVICES

BEE TERMINAL BLOCKS
LOCK A WIRE TO A WIRE



Simply lay stripped ends of two or more wires in the slot. Built-in clamps on Bee nut and terminal post lock a wire to a wire in a vibration-proof, low resistance connection. Write for SAMPLES and data.

TEST-O-LITE

Tests Everything Electrical from 100 to 550 Volts

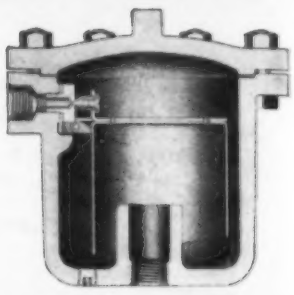
Equipped with Neon light which tells instantly where trouble lies in circuits, fuses, cut-outs, motors, etc. Indicates hot or grounded wires. Tells AC from DC. Saves precious time. Has patented safety features. Vest pocket size. Lifetime guarantee. List $1.50. Purchase thru regular electrical dealers.

L. S. BRACH MFG. CORP., Newark 4, N. J.

▲ Mention Item NED-5958 when writing ▲

Keeps Steam Lines HOT and DRY

CRANE
Inverted Open Float
STEAM TRAP



1. Provides most efficient and economical removal of condensate from steam piping and steam heated equipment. Operation is completely automatic.

2. Small, compact design with high discharging capacities. Free from complex mechanism; float actuating the disc is the only moving part.

3. Durable construction throughout; disc, seat, and hinge materials resist wear and corrosive effects.

4. Bolted cap makes easy access for cleanout and servicing.

5. Working pressure ranges from 1 to 300 pounds; sizes ½ to 1 in. In three pressure classes: 150 and 200 pound with cast iron body; 300 pound with ferrosteel body.

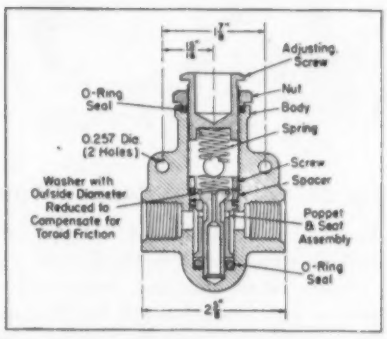
FULL INFORMATION on these steam traps is given in your Crane catalog of complete piping equipment for every service. Or, consult your local Crane Representative. Crane Co., General Offices: 836 S. Michigan Ave., Chicago 5, Ill. *Branches and wholesalers in all industrial areas.*

CRANE *Anything for Piping Systems —You Can Get It From Crane!*

VALVES • FITTINGS • PIPE • PLUMBING • HEATING • PUMPS

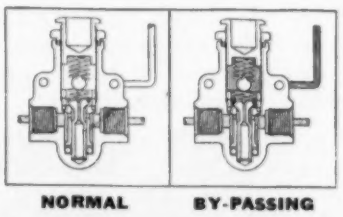
▲ Mention Item NED-5959 when writing ▲

POSITIVE PROTECTION



As with all Electrol products, simplicity in design is an outstanding feature of this relief valve that meets AN standards and tests. Valve body is cast aluminum. Poppet valve is spring-loaded, and cracking pressure is easily adjustable. Either 3/4-16 port can be used as pressure inlet. Outlet port is 3/4-16. Operating pressure is 1,500 lb. per sq. in., cracking pressure 1,750 lbs. per sq. in., proof pressure 2,250 lb. per sq. in. Overall height is 4 in. width is 2-5/8 in. Total weight is 8-1/2 oz.

Sketches below show valve in operation. At left, system pressure is less than valve setting. Under this condition, fluid passes directly through valve. At right is shown valve operation under excessive pressure conditions. The spring-loaded poppet is unseated, allowing enough fluid to by-pass through the valve to the return line, thus reducing system pressure to a safe value.



NORMAL BY-PASSING

ELECTROL

ELECTROL INCORPORATED • KINGSTON, N.Y.

▲ Mention Item NED-5960 when writing ▲

CONGRESS DIE CASTING DIV.
CONGRESS TOOL & DIE CO.
ESTABLISHED 1914
3750 E. Outer Drive Detroit 12, Mich.

▲ Mention Item NED-5961 when writing ▲

NO CLOGGED DRAINS

With Turco's Hand Cleaner

Handisan cuts grease, grime, stains—yet is milder than many toilet soaps

Because Turco Handisan is completely soluble it cannot form wasteful lumps to clog dispensers and stop up drains. It is an ideal mechanic's soap so gentle that it actually soothes bruised, chapped hands, yet so effective that it quickly removes grease, grime, ink and stains. It will not chap hands. Mildly but effectively antiseptic.

The secret is the perfect combination of granular toilet soap and an extremely fine, non-scratching and non-irritating abrasive powder. Write Turco, today

Send for free sample Dept. NED-10.

TURCO INDUSTRIAL CLEANING COMPOUNDS

TURCO PRODUCTS, INC. Main Office & Factory: 6135 S. Central Ave., Los Angeles 1
Offices & Factories 125 W. 46th St.- Chicago 9 - 1606 Henderson St., Houston 1, Texas
New York Office: 415 Greenwich St., New York 13 - Offices & Warehouses in All Principal Cities

▲ Mention Item NED-5962 when writing ▲

THIS 3-MINUTE TEST

SPOTLIGHTS BIG LOSSES

WANT to find out if money is going up your chimney?—and how much?

This handy Hays Combustion Test Set enables you to do your own detecting—accurately, no trick to it, "in a jiffy!" Gives you a CO_2 reading in 30 seconds, and a more complete analysis including draft and flue gas temperature in 3 to 4 minutes.

Better get the story on this accurate indicator of wastes. Send for the new booklet, "The ABC of CO_2"—good reading.

The HAYS CORPORATION
COMBUSTION INSTRUMENTS AND CONTROL
MICHIGAN CITY, INDIANA, U.S.A.

▲ Mention Item NED-5963 when writing ▲

WELDING MACHINES

Butt-flash welding machines in five standard sizes, for hand, air, hydraulic or motor operation have capacities from 20 kilovolt-amperes to 250 kilovolt-amperes, classified and rated according to recommended specifications of the Resistance Welder Manufacturers' Association. Work clamping fixtures can be operated by one method and platen traverse by same or another method. For example, work clamping can be air operated and flash and upset can be hydraulically operated on same machine. According to nature of work to be done, machine can be manually controlled, semiautomatic or fully automatic.

One feature is full hydraulic operation through single self-contained hydraulic unit available on larger models. Unit is mounted within frame and can be removed without disassembly for inspection or service. It contains three pumps: rotor blade pump for platen traverse, gear type pump for clamping work to electrodes, and piston pump to furnish pressure for upset action. Latter pump actuates direct acting traverse feed piston, eliminating mechanical linkage. Pumps are driven through Cone-Drive gears.

Design and construction of units permit mounting of all types of horizontal and vertical acting clamping fixtures and tools to allow wide variation in size and shape of work. All clamping fixtures are adjustable in two planes.

Use of single hand lever, with push button for control of welding current mounted on tip, enables operator to control all stages of welding cycle from one position. Rate of platen travel follows movement of hand lever in both directions. Calibrated dial indicates both rate of travel and position of platen. Welding transformer is mounted within machine. Eight-point current regulator mounted on transformer provides adjustment of welding voltage from 50 to 100 per cent of maximum. Made by **Progressive Welder Co.**, 3025 E. Outer Dr., Detroit 12, Mich.

▲ Mention Item NED-5964 when writing ▲

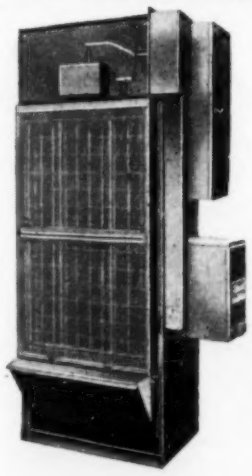
DRY AIR PUMP

Designed to provide air pressure or suction for camera operation, fuel tank and ignition harness pressurization, instrument operation and similar functions, this motor driven explosionproof dry air pump provides theoretical air flow of 4.1 cubic feet per minute at 10,000 revolutions per minute. It is powered by integral 0.2 brake horsepower 27.5-volt direct current explosionproof motor. Rated capacity is 0.018 pound per minute air flow at 11.1 inches mercury absolute inlet pressure, maintaining 31 inches mercury absolute discharge pressure.

Pump requires no lubrication. Rotary, single vane pump delivers air free of oil contamination. Finned rotor housing dissipates heat rapidly. Automatic overload protection is provided. Total weight of unit is 4.75 pounds. Made by Eclipse-Pioneer Div., **Bendix Aviation Corp.**, 1943 Williams Ave., Teterboro, N. J.

▲ Mention Item NED-5965 when writing ▲

The SOLUTION for STUBBORN ATMOSPHERIC DUST PROBLEMS



Product spoilage and health hazards caused by dust, soot, smoke—even oil vapors and welding fumes—are readily overcome by the installation of an AAF air filter designed to your particular requirements. The Electro-Matic air filter which is illustrated at the left, combines electric precipitation with the proven advantages of the automatic self-cleaning viscous impingement filter to provide the highest efficiency in air cleaning. Ask for Bulletin No. 250 D.

BUY WAR BONDS

AAF AMERICAN AIR FILTER CO., INC.
INCORPORATED
391 CENTRAL AVE. LOUISVILLE, KENTUCKY
IN CANADA, DARLING BROTHERS, LIMITED, MONTREAL, P. Q.

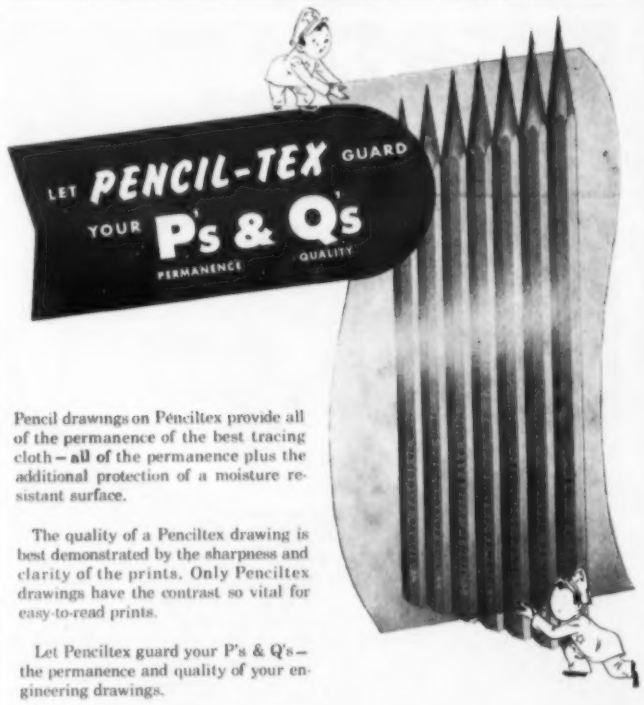
▲ Mention Item NED-5966 when writing ▲

K+E SLIDE RULES

For years K&E Slide Rules have been an essential part of every engineer's equipment, from student days on. The war brought an avalanche of orders for these rules, and we are proud of the job we are doing. But we are even prouder of the quality that creates the reputation of the K&E Slide Rules. Send for Don Herold's helpful and amusing booklet, "How to Choose a Slide Rule."

KEUFFEL & ESSER CO.
EST. 1867
NEW YORK • HOBOKEN, N. J.
CHICAGO • DETROIT • ST. LOUIS • SAN FRANCISCO • LOS ANGELES • MONTREAL

▲ Mention Item NED-5967 when writing ▲



Pencil drawings on Penciltex provide all of the permanence of the best tracing cloth—all of the permanence plus the additional protection of a moisture resistant surface.

The quality of a Penciltex drawing is best demonstrated by the sharpness and clarity of the prints. Only Penciltex drawings have the contrast so vital for easy-to-read prints.

Let Penciltex guard your P's & Q's—the permanence and quality of your engineering drawings.

The Frederick Post Company
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DETROIT • HOUSTON • CHICAGO • LOS ANGELES • MILWAUKEE

INSTRUMENTS • EQUIPMENT • BLUE PRINT PAPERS • KINDRED SENSITIZED PRODUCTS
POST
NATION WIDE NETWORK OF POST DEALERS

▲ Mention Item NED-5968 when writing ▲

The handwheel (above) is only one of hundreds of products molded from laminated plastic "flakes". Far greater strength than powder moldings. Little or no finishing required. For large sections that are uneconomical or impractical to machine. Investigate costs for your quantities. Read the advantages of *molded-macerated* in the Synthane Catalog.

SYNTHANE
TECHNICAL PLASTICS
SHEETS • RODS
TUBES • FABRICATED
PARTS • MOLDED-LAMINATED • MOLDED-MACERATED

SYNTHANE CORPORATION,
Northeast River Road, Oaks, Penna.
Please send me without obligation a copy of the complete Synthane Plastics Catalog.

Name _____
Name of Company _____
Title _____
Address _____
City _____ *State* _____

▲ Mention Item NED-5969 when writing ▲

Typical of KAYDON precision is the spherical roller bearing, 4.3307" I. D. x 7.0866" O. D. x 2.2047" wide illustrated above. KAYDON Bronze or steel retainers; super-precision or standard tolerances.

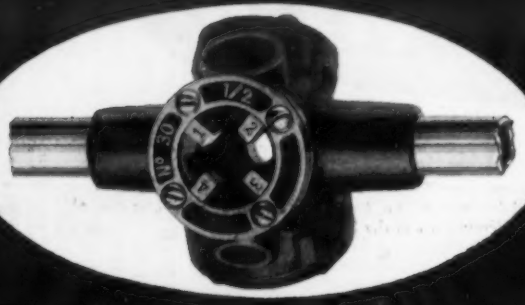
KAYDON specializes in all types of ball and roller bearings, 4" bore to 120" outside diameter. Atmospheric control in heat treating is available at KAYDON. KAYDON offers added services in flame hardening, precision heat treating, metallurgical laboratories, microscopy and physical testing. Contact KAYDON for every need.

KAYDON *Standard or Special Bearings:* Spherical Roller • Taper Roller Ball Radial • Ball Thrust Roller Radial • Roller Thrust

THE KAYDON ENGINEERING CORP.
MUSKEGON • MICHIGAN

▲ Mention Item NED-5970 when writing ▲

"Tops" among 3-WAY THREADERS

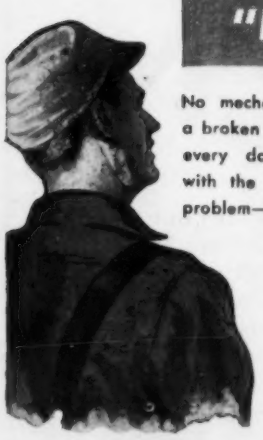


In Pipe Tools—for nearly half a century TOLEDO has maintained unbeatable quality and performance in their complete line. For example—the Toledo 3-WAY THREADER is lightest, smallest and easiest to operate of all 3-way tools! No. 30 threads 3/8" to 3/4" pipe, wt. 4¾ lb. No. 31 threads 1/2" to 1" pipe, wt. 7 lb. The Toledo Pipe Threading Machine Company, Toledo, Ohio. New York Office, No. 2 Rector St. Bldg.

TOLEDO
PRECISION PIPE TOOLS

▲ Mention Item NED-5971 when writing ▲

EXTRACTING BROKEN TAPS "MADE EASY"



No mechanic likes to be faced with a broken tap . . . but taps are broken every day. Provide your mechanics with the simple, easy solution to this problem—WALTON TAP EXTRACTORS.

Having WALTON TAP EXTRACTORS available discourages the practice of make-shift methods, used by some mechanics, which often result in scrapping the piece and costly waste of time.

WALTON
TAP EXTRACTORS

IMMEDIATE DELIVERY. List Prices of popular sizes $1.50 to $2.20 each — Write today for folder No. 26.

THE WALTON COMPANY
94 ALLYN STREET, HARTFORD, CONN.

▲ Mention Item NED-5972 when writing ▲

PRESSURE MEASURING DEVICE

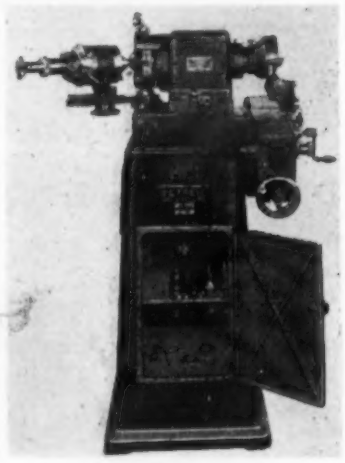
Employing principle that electrical characteristics of wire filament change with physical strain, SR-4 pressure sensitive instrument converts gas or liquid pressure to electrical energy for measuring, recording or controlling. Accuracy is 0.25 per cent of full scale. Unit is available in several ranges up to 0-to-20,000 pounds per square inch. Results can be transmitted long distances whether for direct reading, recording or control. Transmission by radio is feasible.

Gas or liquid pressure to be measured is exerted against hollow metal core to which fine filament wire is bonded. As pressure increases, filament stretches. Thus, diameter of wire is changed and measureable change in electrical resistance occurs. Change of resistance varies amount of current flowing through filament circuit and when amplified these changes show up on dial or actuate control system. Filament is sensitive to stretch of metal core of 0.000001-inch.

Device is hermetically sealed and built-in compensator cancels out effect of any extraneous force such as temperature. It measures 1 inch in diameter and 5½ inches long. Made by Southwark Div., **Baldwin Locomotive Works**, 942 Chester Pike, Eddystone, Pa.

▲ Mention Item NED-5973 when writing ▲

TAP RECONDITIONER



Increased flexibility and expanded range of capacities enabling reconditioning of taps from small machine screw size to 1½ inches in diameter are features claimed for improved tap reconditioner. Machine has facilities for full range chamfering, spiral pointing, point polishing and grinding full length of tap flutes. Taps of from 2 to 7 flutes can be chamfered on machine and flutes and spiral points can be ground on taps having from 2 to 6 flutes. All sizes and types of taps can be point polished.

Provision of precision spindle head permits wide range of motor types for various service voltages, frequencies and phases. Rigidity of spindle head and continuous adjustability for grinding tool wear are provided by mounting spindle assembly on dove-tail ways of pedestal base. Compartment in base of machine provides storage room for collet chucks used interchangeably on both chamfering and flute grind, and spiral pointing units. Made by **Detroit Tap & Tool Co.**, 8432 Butler Ave., Detroit 11, Mich.

▲ Mention Item NED-5974 when writing ▲

REVOLVATOR PORTABLE ELEVATORS

Lower Your Costs for Material Handling

Whether or not you have reconversion problems, now is the time to install more efficient and economical material handling equipment. That means REVOLVATOR (Reg. U. S. Pat. Off.) PORTABLE ELEVATORS and RED GIANT LIFTRUCKS. The two work together to save you much time, labor and space for all piling, stacking and moving. Other models for servicing high ceilings, press feeding, etc.

Write or phone us your requirements and we will send appropriate bulletins.

103 NMT 24—Telescopic REVOLVATOR for piling close to the ceiling between roof trusses.

REVOLVATOR CO.
DESIGNERS AND MANUFACTURERS OF MATERIAL HANDLING EQUIPMENT
2032 86th St. NORTH BERGEN, N. J. Since 1904

▲ Mention Item NED-5975 when writing ▲

CODE DATE ALL TYPES OF CONTAINERS FLAT OR RECESSED THIS NEW MARKOMATIC WAY

NO WORK STOPPING
EASY TO INSTALL
FULLY AUTOMATIC
& SELF-SYNCHRONIZING

Example 1 of a Series

MARKOMATIC conveyor model at modern plant of International Paint Corp., Union, N. J., marks code date on recessed top automatically, without stopping can. Mr. A. R. Smiley, Factory Manager, says, "Most efficient—contributed to increasing production—highly recommend this equipment."

MARKOMATIC marking equipment marks all types of container surfaces automatically with permanent quick-dry ink. Heavily constructed of metals for years of use. Guaranteed for one year.

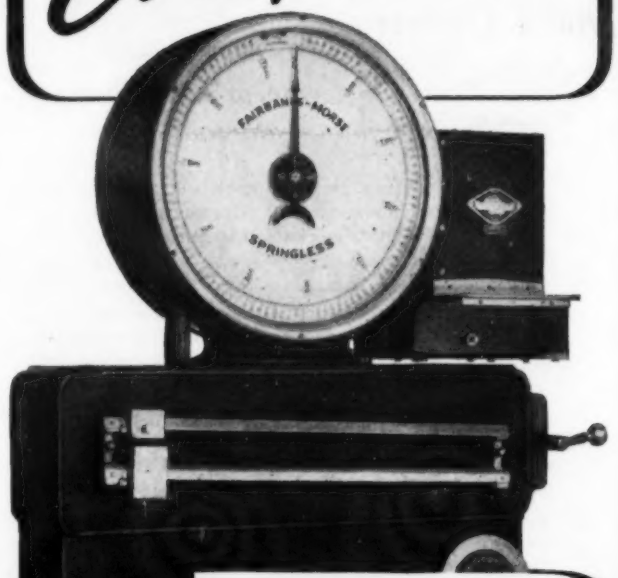
Have you a marking problem?
Write today—no obligation

Send Quickmail Coupon No. 104 for Literature

MARKING EQUIPMENT
ADOLPH GOTTSCHO, INC. 185 DUANE ST., NEW YORK 13, N.Y.

▲ Mention Item NED-5976 when writing ▲

BUILT TO LAST AT *Every Task!*



Fairbanks-Morse Scales are known throughout industry for long life. And there's a reason. Years of engineering experience have taught us how to design scales that can lick the toughest weighing problems or most adverse conditions met in industry. And, in many cases, they can speed up production at the same time. Let a Fairbanks-Morse engineer show you how these scales can help solve your problems. Here are just a few of the things they can do:

- Weigh and disburse preset amounts automatically.
- Keep ingredient proportions secret.
- Weigh materials or products in motion.
- Count small parts and products.
- Read themselves at the touch of a button, and print weight records and receipts.

For further information, write Fairbanks, Morse & Co., Fairbanks-Morse Building, Chicago 5, Illinois.

Buy Victory Bonds and Hold Them

Fairbanks-Morse
A name worth remembering

Diesel Locomotives • Diesel Engines • Generators • Motors • Pumps • Scales
Magnetos • Stokers • Railroad Motor Cars and Standpipes • Farm Equipment

▲ Mention Item NED-5977 when writing ▲

PALMER "Red-Reading-Mercury" Thermometers are created by the skilled hands of Master Craftsmen, who produce Instruments for Temperature Indication and Recording, that are dependably accurate . . . ALWAYS.

Easier reading, lower maintenance and rugged construction are the reasons WHY engineers all over the world specify PALMER. Let us help you solve any Temperature problems.

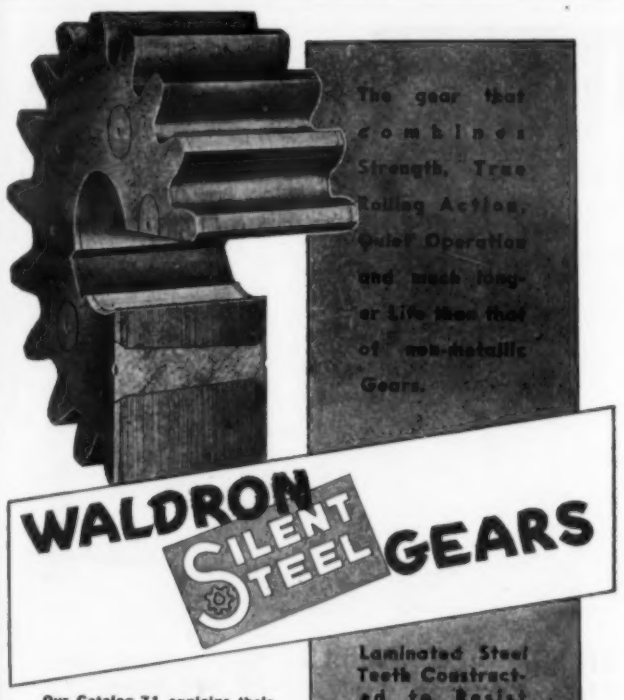
(Write for catalog)

THE PALMER CO., Mfrs.

Industrial, Laboratory, Dial & Recording Thermometers

2523 Norwood Ave. Cincinnati, Norwood, O. — Canadian plant: King & George Sts. Toronto

▲ Mention Item NED-5978 when writing ▲



Our Catalog 71 explains their better construction. Write for copy.

Manufactured and Sold by the
JOHN WALDRON CORPORATION
New Brunswick, New Jersey

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Eliminate DUST to better meet

Dust, even in small amounts, is a hazard that should be eliminated. Dust reduces plant efficiency and is no help in meeting postwar competition. DRACCO Dust Control creates better working conditions that increase plant efficiency. DRACCO Engineers have designed systems to meet every kind of dust condition—from one operation to an entire plant. Why not consult them?

Write for Bulletin No. 302

DRACCO CORPORATION

4053 East 116th St., Cleveland 5, Ohio — New York Office: 130 W. 42nd St.

PNEUMATIC CONVEYORS • DUST COLLECTORS

▲ Mention Item NED-5980 when writing ▲

STRIPPER UNITS

Easily installed Strippit stripper units are designed for use wherever spring pressures are required in a die, as in stripping work and scrap from blanking and forming dies or returning cam slides on underturning dies. When units are employed in making die, punch holder or die shoe castings do not need to be turned over after back sides have been planed. All machining is done from face side.

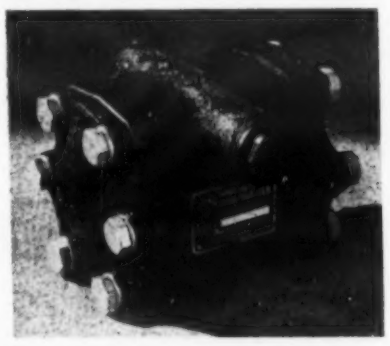
Unit consists of spring held compressed by means of retainer which is telescopic, nonrevolving and self-contained. One end has projection with screw thread by means of which unit is held to punch or die shoe casting. Other end has tapped hole to accommodate stripper screw which holds stripper plate to unit.

All units of same length have uniform stripping pressure. Providing they are equally spaced around die, units assure even stripping action over entire plate, regardless of how many units are used. Since units are held compressed by retainer, no pressure is exerted on stripper plate until it moves into action. This feature reduces required thickness of plates.

Stripper units are packed with lubricant for life. They are available in 2, 2½ and 3-inch lengths and can be used in combinations to provide 3½, 4, 4½, 5, 5½ and 6-inch lengths. Initial loads range from 140 pounds on 3-inch unit to 175 pounds on 2-inch unit. Made by **Wales-Strippit Corp.**, 363 Payne Ave., North Tonawanda, N. Y.

▲ Mention Item NED-5981 when writing ▲

HYDRAULIC FLOW EQUALIZER



Equalization in either direction of two unequally loaded hydraulic actuating cylinders is accomplished with hydraulic flow equalizer. No mechanical interconnection is necessary and two pumps are not required. Unit replaces T in pressure line from control valve. In double acting system, flow from one line into branch lines and reverse flow from two branch lines into one line line are equalized. Metering is automatic.

Unit incorporates balanced meter piston and does not depend on outside mechanical action as proportioning agent. No adjustments are made. Variable orifice controls equalization over range of flow and equalizer can be used with most types of fluid.

Simple modification of unit makes possible proportioner that will split flow into two lines with predetermined greater flow in one line than in other. Operated in reverse direction it will combine two uneven flows, maintaining specified proportion between two lines. Made by Pacific Div., **Bendix Aviation Corp.**, 11603 Sherman Way, North Hollywood, Calif.

▲ Mention Item NED-5982 when writing ▲

GENERAL WIREBOUND BOXES

This hard-to-ship scale posed no problem when handled the General Box way. Its lightweight, easy-to-assemble General Wirebound Container (one of many General-Engineered Shipping Containers) saved weight, packing time and materials. Absolute protection is assured by the use of selected woods and steel binding wires. The end cleats also provide for easier lifting. Our Laboratories are experienced in designing containers for many odd-shaped products.

Write today for full information.

GENERAL BOX COMPANY

General Offices: Corner of Dearborn and Illinois Streets, Chicago, Ill.; District Offices and Plants: Brooklyn, Cincinnati, Detroit, East St. Louis, Kansas City, Louisville, Milwaukee, New Orleans, Sheboygan, Winchendon . . . . Continental Box Company, Inc.: Houston, Dallas

▲ Mention Item NED-5983 when writing ▲

IRC "SET-UP" for SERVICE

From coast to coast and border to border you'll find IRC "specialists" ready to help you with your resistor problems. These alert and capable organizations are ready to assist you in determining the precise resistors for your specific applications. IRC can render this unbiased technical service because it is the largest exclusive producer of resistance devices, making more types of resistors in more shapes, for more applications than any other manufacturer in the world.

Names and addresses of your nearest IRC Distributors will be furnished on request. Address Department 15-J.

PREFERRED FOR PERFORMANCE • IRC • FIXED & VARIABLE RESISTORS

INTERNATIONAL RESISTANCE CO.

401 N. BROAD ST., PHILADELPHIA 8, PA.

▲ Mention Item NED-5984 when writing ▲

HOLTITE
SCREWS, BOLTS, NUTS and allied fastenings

Rugged, accurate and consistently uniform, HOLTITE precision-made fastenings are produced in all types, head styles, and finishes for ANY application in ANY material.

HOLTITE - Phillips Recessed Head Fastenings effect savings in time up to 50% and more. Power drivers can be safely used even on finished parts to speed assembling and eliminate marring of work and injuries to operators.

Send in your fastening problems. Our Engineering Staff will gladly study them and make recommendations for the most practical methods of reducing your costs. We have the most complete facilities for producing Special parts and fastenings.

CONTINENTAL SCREW CO.

New Bedford, Mass., U.S.A. BUY MORE BONDS

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MAKE ACCURATE PHOTOCOPIES OF ANYTHING! In your Office or Plant —Quickly, Easily, at Low Cost!

The **APĒCO PHOTOEXACT**
"Copies Anything!"

BLUE PRINTS • DRAWINGS
TRACINGS • INVOICES
SPECIFICATIONS • RECEIPTS
CHARTS • ORDERS • LETTERS
(over 100 others)

Photo-Copyer $55 Copies up to 18" x 22"

Also continuous cabinet models for prints of any length, up to 42" wide.

Save typing and drafting time—money—expedite work! Make error-proof copies—1-a-minute—of anything written, typed, printed, drawn or photographed—even if on both sides. Get clear, non-fading copies. No darkroom or technical knowledge needed.

American Photocopy Equipment Co.
2849 N. Clark Street
Dept. BS105, Chicago 14, Illinois
(Representatives in principal cities and Canada)

AMERICA'S MOST WIDELY USED PHOTOCOPY EQUIPMENT

Get full facts! MAIL COUPON NOW!

AMERICAN PHOTOCOPY EQUIPMENT CO.
2849 N. Clark St., Dept. BS105,
Chicago 14, Ill.
Send illustrated folder showing how APĒCO saves time, money and labor.

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TITLE.....
COMPANY.....
ADDRESS.....
CITY..... STATE.....

▲ Mention Item NED-5986 when writing ▲

"PAID FOR ITSELF *Time and Again*"

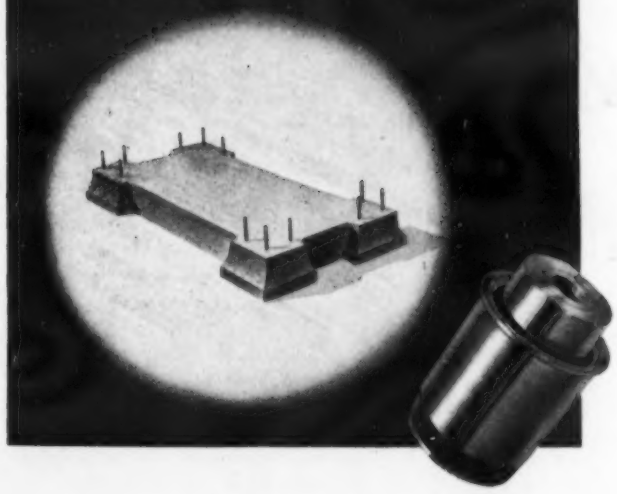
. . . . says the owner. Two ton die blocks are handled overhead by American MonoRail. Practically all manual handling is entirely eliminated and every move from one machine to the other is done automatically . . with American MonoRail. Our engineer will gladly show you how to handle your products in less time and for less money.

SEND FOR BULLETIN C-1, A 56 page book showing successful applications of American MonoRail Systems.

THE AMERICAN MONORAIL CO.
13116 Athens Ave. Cleveland 7, Ohio

▲ Mention Item NED-5990 when writing ▲

If users need bases like this...



...your product needs Silentbloc Vibration Control

THE place to neutralize the effects of vibration is on your design boards—not on your customers' factory floors. Heavy bases and makeshift floor mounts are obsolete.

In modern motors and equipment, vibration control is made an integral part of product design through the use of General Silentbloc Vibration Mountings.

Silentbloc Mountings offer you engineered accuracy in solving any problem of vibration isolation, noise transmission and shock load. The construction of these rubber-and-metal mountings permits almost infinite variation in performance. High-speed elongation of the rubber between metal sleeves gives an indestructible mechanical bond, even stress and more exact control.

Silentbloc vibration control is adaptable to products of every type. Mountings can be made of any metal and rubber, in any size to carry loads of ounces to tons. General engineers can help you design Silentbloc Vibration Mountings for your specific needs.

For full information, write for booklet, or see Silentbloc Section in Sweet's Product Designers File. The General Tire & Rubber Co., Dept. A 129, Wabash, Ind.

Patented Silentbloc principle of elongating and confining rubber between metal members gives virtually indestructible adhesion and uniform stress, resulting in precise performance and long life.

The GENERAL SILENTBLOC
MOUNTINGS . . . BEARINGS
COUPLINGS

Mechanical Goods Division • Wabash, Indiana

THE GENERAL TIRE & RUBBER CO.
Makers of America's Top-Quality Tire

▲ Mention Item NED-5991 when writing ▲

BATCH HEATING FURNACES

Suited to such operations as annealing, bluing, carburizing, hardening, normalizing, drawing and stress relieving, line of standard oven or hearth type batch furnaces can be gas or oil

fired or electrically heated. Range of heating for gas or electric types is between 600 to 1800 degrees Fahr. and for oil burning type, 1200 to 1800 degrees Fahr.

Furnaces are constructed of reinforced steel shells lined with refractory and insulation to meet severe heating conditions with minimum heat absorption and heat losses. Cast iron refractory lined door forms tight heat seal and is operated by hand lever. Smaller inspection door bolted to it permits charging, inspection and removal of small pieces.

Furnaces are available in 18 hearth sizes from 12 x 18 inches to 48 x 96 inches. Hearth of fuel fired furnaces is of carborundum with ledges extending above both sides and rear to form semimuffle. Electric furnaces have chrome-nickel alloy hearth with upturned ledges.

In gas fired furnaces, automatic proportioning equipment is employed for single valve control, with multiport alloy steel tunnel burners firing from both sides of furnace. By use of double manifolds and Hy-Lo gas burners, operating range can be extended as high as 2200 degrees Fahr. In oil fired furnaces, burners permit wide turndown range to assure minimum fuel consumption and temperature variation. Nichrome wire resistors are suspended from arch and mounted under hearth in electric furnaces. These individual type heating elements are easily removed without disturbing remaining elements. Special equipment can be supplied for each type to meet specific needs. Made by **W. S. Rockwell Co.**, 50 Church St., New York 7, N. Y.

▲ Mention Item NED-5992 when writing ▲

VACUUM GAGE

With continuous linear response to 10 millimeters total pressure, Alphatron ionization gage is suited to measuring pressures of gases such as argon, water vapor and hydrogen. Linear response holds true regardless of atmosphere. Ionizing agent is stream of Alpha particles emitted by radioactive source which permit operation of gage at any pressure without damage. Steady emission characteristics of radioactive element and amplifier design insure stability and reduce needle flicker to minimum.

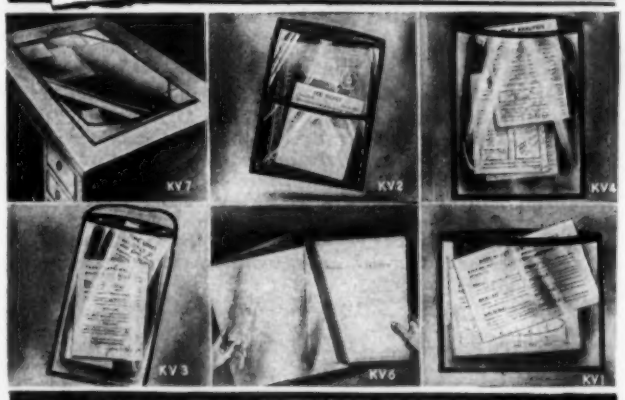
Model shown has three ranges, all reading direct pressure. They are 0 to 0.1 millimeter, 0 to 1 millimeter and 0 to 10 millimeters. Pressure can be read to 1 per cent of full scale reading in each case. Made by Vacuum Engineering Div., **National Research Corp.**, 98 Brookline Ave., Boston 15, Mass.

▲ Mention Item NED-5993 when writing ▲

How to reduce production errors, boost output, save man-hours

All over the country, plant executives are using Kleer-Vu Plastic Envelopes to eliminate factory errors caused by grease-smudged work orders. Dropped into a Kleer-Vu Envelope, job cards, blueprints, instruction sheets, etc., remain permanently clean and clear. Doubts and questions vanish. Production increases. Precious man-hours are saved. Deliveries speed up. Used by Fleetwings, Ford, Aeronca, Wagner Electric, Fairchild, the Army and Navy, many others. For free sample of KV1 (see below), write today on your letterhead.

Kleer-Vu Plastic Envelopes



FREE SAMPLE! Write: AMERICAN PLASTIC PRODUCTS 2907 S. Main Street, Los Angeles 7, Cal.

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Versatility Is This Jack's Middle Name

Simplex No. 310A, 15-tons capacity, height 22", lift 14", toe lift minimum 2¼".

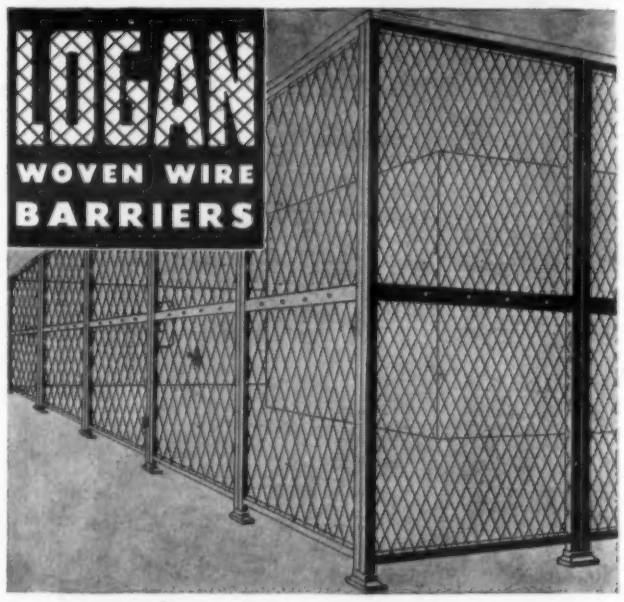
THIS Simplex Emergency Jack is unsurpassed for the number of jobs it handles safely and economically. In addition to lifting vertically, it pushes horizontally and lifts or pushes from any angle. Lifts on cap, on corrugated toe, on auxiliary cap shoe, or from any intermediate height by using the chain as a sling.

Double lever socket provides close quarter operation. Machine corrugated toe lift prevents loads from slipping off, even when jacking at an angle. Larger base area and better materials impart added safety.

Simplex LEVER - SCREW - HYDRAULIC **Jacks**

Templeton, Kenly & Co., Chicago (44), Ill.
Better, Safer Jacks Since 1899

▲ Mention Item NED-5995 when writing ▲



STANDARDIZED PANELS as shown in this illustration are now available for essential industrial use. Cheaper than wood, and allow free circulation of heat, air and light. No waste in installation or later rearrangement. Painted black and with necessary floor sockets and bolts. 5' by 8' panels, $12.05 each; 5' by 7' panels, $11.75 each. 3' wide hinged gates with lock and transom, 8' high, $21.95; 7' high, $21.55. Also sliding gates, service windows. Order now.

Builders Iron Div., LOGAN CO., Inc., 1000 Franklin St., Louisville 6, Ky.

▲ Mention Item NED-5996 when writing ▲

Written for Easy Understanding

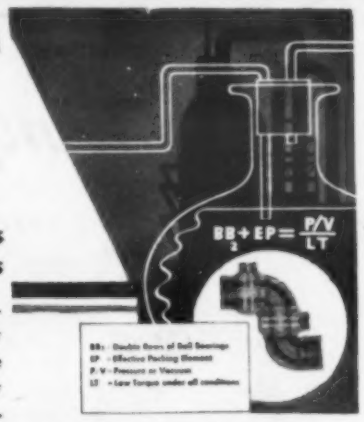
This new course in industrial electronics is designed to teach the fundamentals of electronics and the principles of combining tubes and other electric equipment. It can be understood by personnel lacking a technical background.

Twelve half-hour slidefilms with records, complete in a carrying case, make up the course. With the twelve talking slidefilms you get 25 sets of 12 individual lesson guides, keyed to the film, and a manual containing detailed instructions for conducting the course. A meeting place, screen, and a sound slidefilm projector (35 mm, 33½ rpm) are all you need. Price of complete kit—$100. Write Sect. 6-321, Apparatus Dept., General Electric Company, Schenectady 5, N. Y.

GENERAL ELECTRIC

▲ Mention Item NED-5997 when writing ▲

CHIKSAN FORMULA for PERFECT FLEXIBILITY meets Chemical Industry's demands



CHIKSAN *Ball-Bearing* Swivels are widely used throughout the Chemical Industry on loading and unloading lines, on process equipment . . . in every place where perfect flexibility with low torque is required under pressure or vacuum. Built of malleable iron, steel, special alloys, bronze or aluminum, Chiksan Swivels are used on flexible lines handling acids, alkalies, gasoline, oil, steam and many other liquids, gases and vapors under pressures to 3,000 p.s.i. and varying temperatures.

The performance of Chiksan *Ball-Bearing* Swivels in the Chemical Industry under the most severe conditions proves their ability to meet *your* requirements under *your* conditions . . . no matter how rugged they may be. Write for Catalog.

CHIKSAN REPRESENTATIVES IN PRINCIPAL CITIES
Distributed nationally by Crane Co.

CHIKSAN BALL BEARING SWIVEL JOINTS FOR ALL PURPOSES — CHIKSAN COMPANY BREA, CALIFORNIA

▲ Mention Item NED-5998 when writing ▲

Whenever you can put bolts you can put FAFNIR

Flange Cartridges

Four bolts on each side, holes for the shaft and you're ready to install a Fafnir Flange Cartridge, Type LCJ. No fussy machining. Self-aligning and self-locking on shaft without machining. Mechani-Seals keep in grease, keep out dirt. For shaft diameters ½" to 2 11/16". If your product needs postwar improvement, call on Fafnir experience today. The Fafnir Bearing Co., New Britain, Connecticut.

FAFNIR
BALL BEARINGS
Most complete line in America

▲ Mention Item NED-5999 when writing ▲

INDUSTRIAL TIRES FOR IMMEDIATE DELIVERY!

AMPLE stocks of new Pressed-On Tires for power trucks, tractors are now ready. Tough, long-wearing tread with maximum resistance to cutting or chipping—vulcanized to a steel base. Ideal for inside or outside factory service. Write, call, or wire Dept. 242, Industrial Tire Sales Division, The B. F. Goodrich Company, Akron, Ohio.

B. F. Goodrich Industrial Tires

▲ Mention Item NED-6000 when writing ▲

WORK POSITIONER

Balanced work positioner, requiring no power equipment, features finger tip control through 360 degrees of rotation and 135 degrees of tilt. Having design that retains center of gravity in one position, balance is maintained.

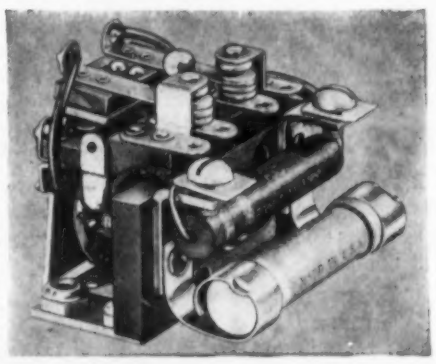
Tilting spindle located below face plate permits mounting of long structures without interference with tilt axis structure. Cam operated pins engage index plates, providing lock for work at 15-degree intervals of both rotation and tilt. Index plates with special spacing can be provided where 15-degree spacing is not suitable. For work where force is not exerted, such as welding, spring pin indexing is possible. Combination of spring pin and locking pin can be accomplished on single index plate.

Where drag is desired but exact indexing is not required, as in shot blasting and paint spraying, spring loaded brake shoes with thumb screw adjustment provide desired drag. Proper adjustment of drag makes manipulation of work automatic from impact of blast or spray.

Height of work from floor can be adjusted. Vertical leg of tilt arm can be set in pipe and mounted in shop floor or in brackets projecting from wall column or bench, or as illustrated, in wide-angle pedestal feet. Model No. 5, illustrated, has capacity of 500 pounds with center of gravity from 6 to 12 inches above face plate. Model No. 1½ has 150 pounds capacity. Made by **Bentley Weldery, Inc.**, Dept. H, Box 1038, Syracuse, N. Y.

▲ Mention Item NED-6001 when writing ▲

SELF-TIMING INTERRUPTER



Used for aircraft identification lighting control circuit as well as marine, industrial, automotive and railway signaling devices, flasher-interrupter is small unit weighing 7 ounces. Comprising miniature heavy duty relay, electro-thermal timing device and noninductive resistor, device has elastic stop units providing immunity to shock and vibration. It is designed to withstand 10 G's in aircraft applications.

With components incorporated in single assembly, four studs are provided for panel, bracket or shelf mounting. Interruptions can be controlled through range of from 60 to 80 per minute by varying current through thermal unit. Operating voltages include standard alternating and direct current ranges and frequencies. Units for operation on other voltages and frequencies are available on special order. Normal actuating current is approximately 200 milliamperes. Made by **Electronic Testing Laboratories**, 44 Summer Ave., Newark 4, N. J.

▲ Mention Item NED-6002 when writing ▲

If it's for marking metal Mercury has it ...or can make it!

Whatever your metal marking need may be—for inspection stamps, individual letters and figures, or complete sets for part numbering—Mercury can fill it!

Standard and special inspection stamps like those illustrated, for example, are carried in stock ready for delivery, or can be quickly produced to your requirements if desired.

Complete manufacturing facilities are available to solve any problem in metal marking. Send us a drawing or sample of the impression you need, or briefly outline your requirements for a prompt recommendation. *Full details are yours for the asking—write Department E today.*

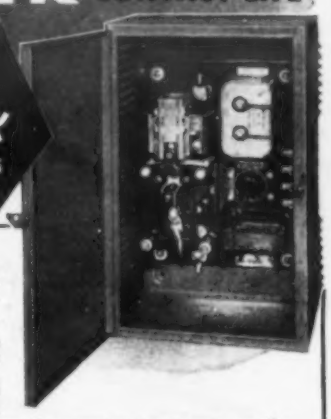
METAL MARKING TOOL SPECIALISTS FOR OVER 25 YEARS

MERCURY METAL DIE AND LETTER CO.
546 EAST 16TH STREET, LOS ANGELES 15, CALIFORNIA

▲ Mention Item NED-6003 when writing ▲

FOR HIGHER RATINGS AND LONGER CONTACT LIFE

SQUARE D SYNCRO-BREAK RESISTANCE WELDER CONTACTORS



● Arcing is eliminated at the contact tips of SYNCRO-BREAK contactors by separately energizing the magnet "shading coil" from a transformer and rheostat circuit. Correct rheostat adjustment causes the contact to part as the alternating current wave approaches zero. Thus, the contactor interrupts zero current and no arc is drawn.

Elimination of arc heat at contacts increases allowable ratings, and contact tip deterioration is reduced substantially. Rheostat adjustment is not critical and synchronization remains stable over long periods of usage.

for details write Industrial Controller Division, Square D Company, 4041 N. Richards Street, Milwaukee 12, Wisconsin

SQUARE D COMPANY
DETROIT • MILWAUKEE • LOS ANGELES

▲ Mention Item NED-6004 when writing ▲

SULPHO HAND CLEANER

will not defat the skin. It has been specially formulated for workers encountering solvents, and skin drying chemicals. Send for FREE booklet.

WEST DISINFECTING Company
112-16 WEST ST. • LONG ISLAND CITY 1 • N. Y. • DEPT. DE

▲ Mention Item NED-6005 when writing ▲

NEW LOW SPEEDS FOR YOUR STANDARD MOTORS with SACO Speed Reducers

● Adapt your standard high speed motors to a wide range of slower speeds for practically any job. SACO Double Reduction-Type Speed Reducers provide ratios between 10 to 1 and 60 to 1 by merely changing sheaves.

First reduction is by V-Belts . . . second through steel helical gears. Mounting motor on top of reducer eliminates cast iron base, saves room, simplifies installation and permits regulation of belt tension.

Write for Catalog No. 643 for complete details of these compact flexible units.

STEPHENS-ADAMSON MFG. CO.
Tellevel—Bin Level Controls · Car Loaders · SealMaster Ball Bearings · Car Pullers · Winches · Saco Speed Reducers
12 RIDGEWAY AVE., AURORA, ILLINOIS

▲ Mention Item NED-6006 when writing ▲

TO OBTAIN
Required
GAS
PRESSURES

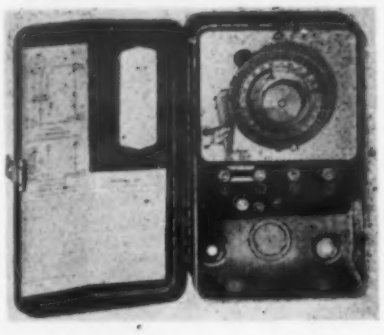
If you are interested in a gas pump that will keep pressures right where you want them — and still be economical on power and maintenance costs—you should have a copy of Bulletin 31-B-15. A copy is waiting for your request.

ROOTS-CONNERSVILLE BLOWER CORPORATION
One of the Dresser Industries
510 Western Avenue, Connersville, Ind.

Roots CONNERSVILLE SINCE 1854
GAS PUMPS

▲ Mention Item NED-6007 when writing ▲

TIME SWITCHES

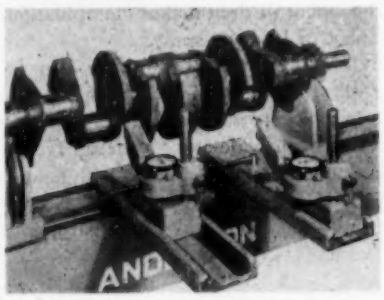


Improved by incorporation of Telechron motor, Paragon 300 series time switches are claimed to give long service in controlling signs, commercial lights, attic fans, stokers, oil burners, blowers, pumps, valves, motors and similar equipment. Industrial type synchronous motor is self-starting at full rated load and incorporates self-oiling feature by capillary system. Gear reduction is sealed to exclude dust and dirt. Unit has low current consumption.

Light in weight, 300 Series is small and compact. Switch capacity is 3000 watts per pole. Terminals are readily accessible. Knockouts are on both sides and back and bottom. Made by **Paragon Electric Co.**, 37 W. Van Buren St., Chicago 5, Ill.

▲ Mention Item NED-6010 when writing ▲

CRANKSHAFT CHECKER

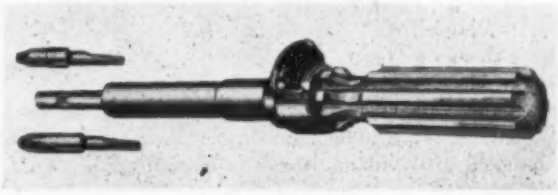


Checking operations on crankshaft bearings are facilitated through use of this Roto-Checker. Crankshaft is placed on four rotating discs and a number of indicators are brought into position. Shaft is then revolved. One indicator can be furnished for each bearing. Discs roll on accurate, supersensitive ball bearings. Devices are made in 42 and 64-inch lengths, and these accommodate crankshafts of up to their respective lengths. Larger models can be made to suit work requirements. Made by **Anderson Bros. Mfg. Co.**, 1901 Kishwaukee St., Rockford, Ill.

▲ Mention Item NED-6011 when writing ▲

TORQUE SCREWDRIVER

Having range from 0 to 25 inch-pounds, this torque screwdriver is suited to sheet metal, plastics and light metal assembly jobs. It measures torque by relative longitudinal displacement

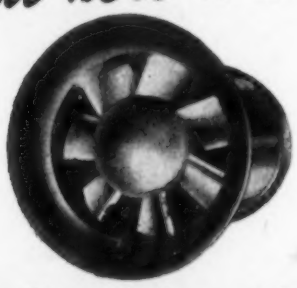


of parallel steel bars of known and indestructible tensile strength. Inch-pounds are indicated directly on dial without use of springs.

Screwdriver is supplied with two bits, one for Phillips screws and one for slotted screws, together with adapter for ¼-inch square socket to take wrenches for small nuts, studs and socket screws. Made by **Apco Mossberg Co.**, 102 Lamb St., Attleboro, Mass.

▲ Mention Item NED-6012 when writing ▲

"IT CAN'T BE DONE.."
But here it is!



The New Hartzell Vaneaxial Blower

19 years of air-moving experience plus 3 years of intensive research are behind this new blower. 87% total efficiency. Operates smoothly and quietly. Space-saving. Low power cost; long, trouble-free life; easy, economical installation. *Efficient against 8" water gauge and more.*

There's a Hartzell fan or blower for every air-moving need. Our experienced field engineers give valuable installation aid.

Hartzell
PROPELLER FAN CO.
PIQUA DIV. OF CASTLE HILLS CORP. OHIO
ENGINEERING REPRESENTATIVES IN PRINCIPAL CITIES

▲ Mention Item NED-6008 when writing ▲

WANT COMPLEX PARTS FABRICATED *FASTER?*
HAVE THEM COPPER BRAZED *by Salkover*

This spiral assembly demonstrates how effectively Salkover copper brazing can produce the most intricate metal parts. The assembly is the rear plate for the magazine of a machine gun and consists of seven pieces—all copper brazed together in one pass through the electric furnace. Parts emerge bright and clean, require no pickling. Despite severe impact and vibration copper brazed joints do not work loose. Inspection, maintenance and repair costs are reduced to new lows never before possible.

Use copper brazing for cost reduction and quality improvement in present assemblies of stampings and screw machine components. Also analyze parts now machined from bars, forgings or castings. Their simple elements, when produced on punch press and screw machine—assembled by Salkover copper brazing—will be equal to original construction in all respects except cost—which is much lower. Send blueprints and samples for comments and quotations.

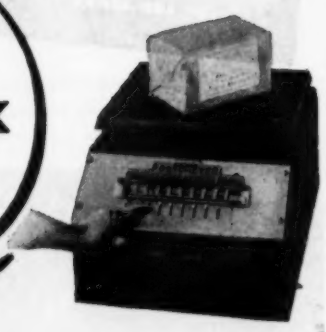
TWO PLANTS: 4215 W. Lake Street, Chicago 24, Ill.
34-22 Borden Avenue, Long Island City 1, N. Y.

Salkover COMMERCIAL ELECTRIC FURNACE COPPER BRAZING BRIGHT ANNEALING-SILVER SOLDERING METAL PROCESSING

▲ Mention Item NED-6009 when writing ▲

DETECTO POST-O-METER

DETECTO ENDS GUESSWORK *in Postal Weighing*



Detecto Scales for industrial and commercial uses end guesswork in weighing. No Detecto scale illustrates this better than the Post-O-Meter, an automatic computing scale—sturdy, efficient, engineered to eliminate over-postage, zoning errors, "postage-due" delays. You simply press the right zone key and the CORRECT POSTAGE cost appears magnified for easy reading. To double your shipping room efficiency, get a Detecto Post-O-Meter. Call a Detecto Scale engineer.

Send for catalog. Dept. 510.

DETECTO SCALES, INC.
ONE MAIN STREET · BROOKLYN, N. Y.

▲ Mention Item NED-6013 when writing ▲

Savings—Improv
THROUGH Rubber-C

BRIGHTBOY STANDARD
A favorite for burring, finishing and polishing on the widest variety of metals and metal parts.

BRIGHTBOY FINE-TEX
Smoother, finer texture for work on softer metals, producing special finishes and for applications where the coarser wheel might not be suitable.

BRIGHTBOY TUFF-TEX
Tougher texture, for finishing hard metals. The tougher binder accents the abrasive action, yet retains the soft rubber cushion, finishing and pre-polishing in one operation.

BRIGHTBOY INDUSTR VISION

WELDON
Bright

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MATHEWS *Flexible* W

MATHEWS CONVEYE
WEST COAST • ELLER
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ENGINEERING OFF OR

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3 SKILLED WORKERS
who earn double their pay

You'll find these Union Metal materials handling units pay for themselves many times over in TIME and LABOR SAVINGS.

PALLETS SKID PLATFORMS BOXES

Furnished in the design, size and capacity for your requirements. For details, write The Union Metal Manufacturing Company, Canton 5, Ohio

UNION METAL
Materials Handling Equipment

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ovements

-Cshioned **Brightboy**

BUFFING · FINISHING · POLISHING

"MUSTS" IN YOUR NEW-PRODUCT PROGRAM!

INVESTIGATE the outstanding time saving, profit improvement methods offered by Brightboy, pioneer in rubber-cushioned abrasive wheels, blocks, sticks, rods. Made in 3 textures, for wide range of close tolerance manual and machine applications. RUBBER AND ABRASIVE WORK SIMULTANEOUSLY, eliminating production steps between the grind and the buff; cleaning, finishing, polishing in a single operation which often serves as the "final".

ASK A BRIGHTBOY SERVICE MAN to suggest production short cuts; ask your dealer for prices, catalog, work data.

INDUSTRIAL DIVISION • WELDON ROBERTS RUBBER CO. • NEWARK 7, N. J.

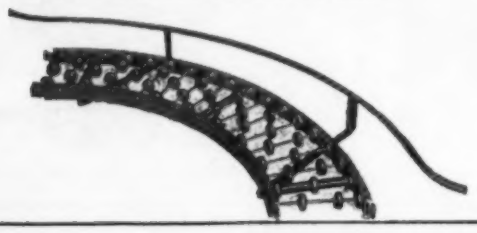
ROBERTS

ht b o y

NED-6 when writing ▲

WHEEL CONVEYER

These sections of Wheel Conveyer with Universal Couplings and quickly adjustable Tripod Supports are ideal for handling cartons, cases, and miscellaneous light packages. The sections are available in 5′ and 10′ lengths, and with 8, 10 or 12 wheels per foot. The standard section width is 12″ overall. 45° and 90° Curves with adjustable guard are standard. The wheel used is a high-quality skate wheel, the result of 40 years of Mathews experience in conveyer bearing and wheel manufacture. Prices and complete information sent on request.



MATHEWS CONVEYER COMPANY • Ellwood City, Pa.

EAST • MILLER SEARLES, INC., SAN FRANCISCO

MATHEWS CONVEYER COMPANY, LTD., PORT HOPE, ONT.

BRANCH OFFICES OR SALES AGENCIES IN PRINCIPAL CITIES

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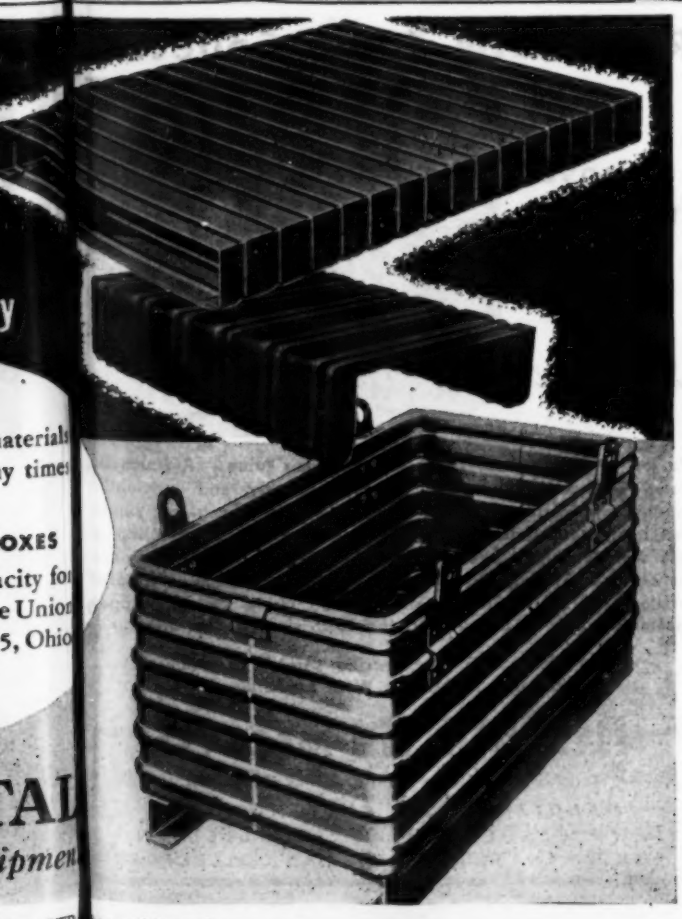
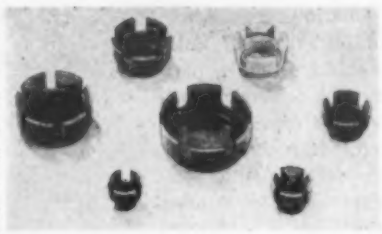


Item NED-6 when writing ▲

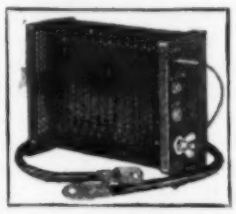
PROTECTIVE TUBE CAPS



Tight, dustproof seals at both ends of beaded or swaged tubing are provided by these Asco Plasticaps to prevent entrance of dirt or foreign particles. Caps remain in place during all subassembly operations until final hose connection is made. They are snapped into place with thumb pressure. Circular grippers move out over bead and close to effect tight seal. Caps have sufficient strength and spring to remain firmly in place without loosening. They will not mar or scratch tube sealed or adjacent tubing in storage. Various colors are available for size identification. Sizes are ¼, 3/8, ½, 5/8, 3/4, 7/8, 1 and 1¼-inch diameters. Made by **Aviation Service Corp.**, 503 First National Bldg., Oklahoma City, Okla.

▲ Mention Item **NED-6017** when writing ▲

ARC WELDING ATTACHMENT

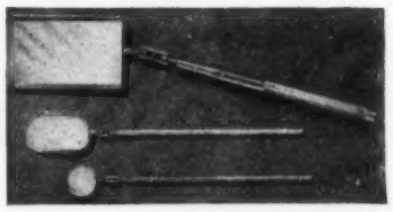


Providing wider range for standard arc welding machines, Thinweld three-step attachment makes it possible to weld from 10 amperes up through maximum rating of welding machine without any dead spots in range. No. 413 attachment is equipped with 3-foot cable which is connected to ground terminal of welding machine. Ground lead is connected in turn to wing nut on attachment. By plugging jack into three alternative positions, it is possible to get three additional ranges of amperage. Intermediate points can be obtained by use of field rheostat. Current values obtainable in these subranges are: low, 10-20 amperes; medium, 15-30 amperes; high, 25 to minimum capacity of machine.

When installed on Hobart arc welders at factory, No. 412 attachment is fastened permanently on back of machine and is connected to first and second range of ten-range switch. Thus, additional lower amperage for light gage welding is provided in first range. Made by **Hobart Brothers Co.**, Hobart Sq., Troy 1, O.

▲ Mention Item **NED-6018** when writing ▲

MECHANIC'S MIRRORS



Available in three models, mechanic's mirrors are designed to be used by mechanics, tool and die makers, machinists and others for inspection and to provide vision to blind spots. Model A-S is round, 7/8-inch in diameter, with all angle swivel joint and knurled handle. Model B-2 is oval, 1 x 2 inches, with all angle swivel joint and knurled handle. Model K-2 is rectangular, 2-1/8 x 3-1/2 inches, with telescoping handle opening to 15-5/8 inches and 6-5/8 inches long when folded. Model A-2 is $10.80 per dozen, model B-2 is $12 per dozen and model K-2 is $15 per dozen. Made by **Ullman Products Co.**, 859 Fourth Ave., Brooklyn, N. Y.

▲ Mention Item **NED-6019** when writing ▲

The NEW **OXWELD 25M** PATENTED

FLUX-COATED BRONZE-WELDING ROD

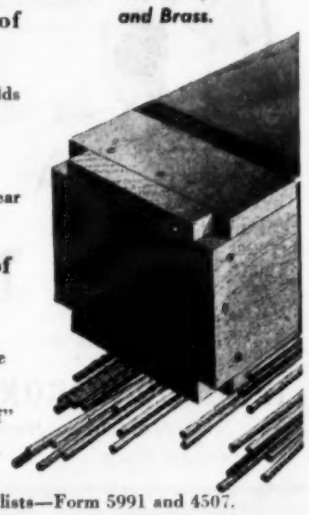
For Oxy-Acetylene Welding of Steel, Cast Iron, and Brass.

All the superior qualities of standard OXWELD 25M. (Patented) Bronze Rod

- Makes uniformly high-quality welds
- Melts readily • Flows freely
- Tins easily
- Welds solidify quickly
- Makes high-strength welds
- Welds have high ductility and wear resistance
- Welds are easily machinable

Plus the many advantages of flux precoating

- Speeds bronze-welding
- Assures uniform fluxing
- Eliminates repeated fluxing of the rod
- Saves flux
- No "spalling" and little "burn-off" of flux
- Coating is unaffected by weather conditions



Write for descriptive price lists—Form 5991 and 4507.

THE LINDE AIR PRODUCTS COMPANY

Unit of Union Carbide and Carbon Corporation

30 E. 42nd Street UCC New York 17, N. Y.

In Canada: Dominion Oxygen Company, Limited, Toronto

The word "Oxweld" is a registered trade-mark of Union Carbide and Carbon Corporation

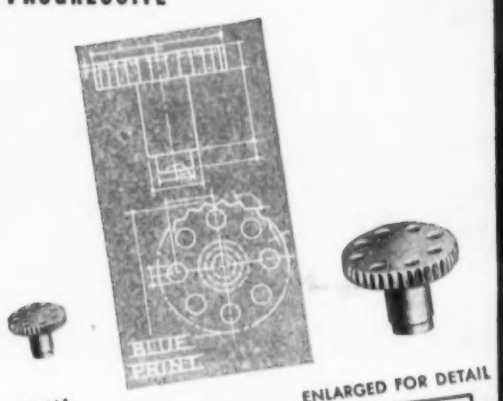
▲ Mention Item **NED-6020** when writing ▲

Increased service- **a result of tough, precision-fabricated materials**

N. S. BAER CO. 9-11 MONTGOMERY ST. HILLSIDE, N.J.

▲ Mention Item **NED-6021** when writing ▲

ANOTHER SPECIAL BY PROGRESSIVE



CATALOG SHOWS DOZENS MORE

Special heads, threads and finishes on any metal or alloy adapted to cold upset. Weekly output: 25,000,000 pieces. Many specials, suggesting production savings for you, illustrated in latest catalog. Includes weights per 1M standard pieces, decimal equivs. of fractions, other purchasing and engineering helps. Write for Catalog 18.

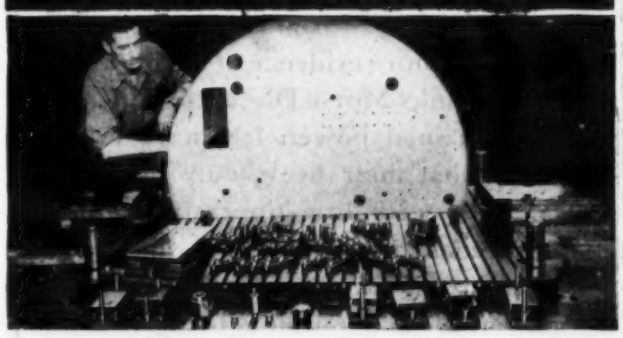
The **PROGRESSIVE MFG. CO.**

46 NORWOOD ST. • TORRINGTON, CONN.

ection Item **NED-6022** when writing ▲

USE ADJUSTABLE PERFORATING DIES

FOR INCREASED PRODUCTION



Whistler precision perforating dies get you into production quicker—make your own set-up in a matter of minutes as against weeks. Rearrange the same units—add or delete sizes or shapes—and get going on the next job. Original die cost is amortized over any number of jobs. Effect pre-production and production time savings that can only be measured by the size and importance of each job.

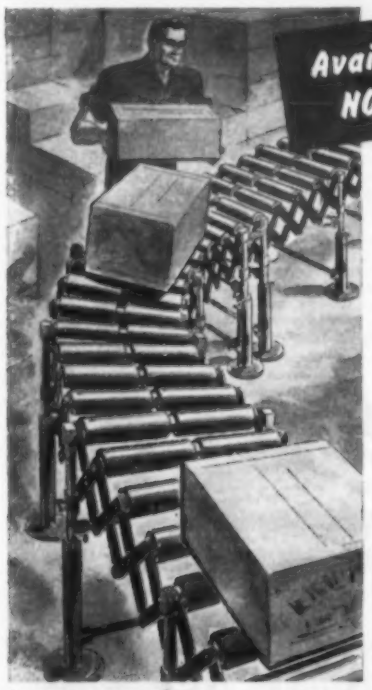
Whistler Adjustable Perforating Dies are shipped from stock or within a few days, in sizes from 1/32″ to 1½″—round, square, oval and rectangle—for perforating mild metals to and including ¼″ thickness. Notching dies and special shapes made to order and can be used in combination with stock units. Whistler Adjustable Dies work on practically any type press. Close centers permit more perforations per press operation. Absolute precision on short or long runs. All parts are interchangeable. Write us today and ask for the Whistler Catalog.

S. B. WHISTLER & SONS, Inc.

752-756 Military Road Buffalo 17, N. Y.

WHISTLER MULTI-USE ADJUSTABLE **PERFORATING DIES**

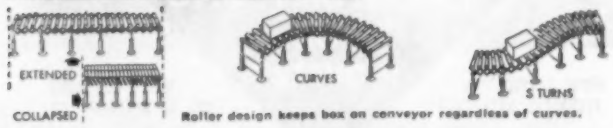
▲ Mention Item **NED-6023** when writing ▲



Available NOW!

FMC ACCORDION CONVEYORS

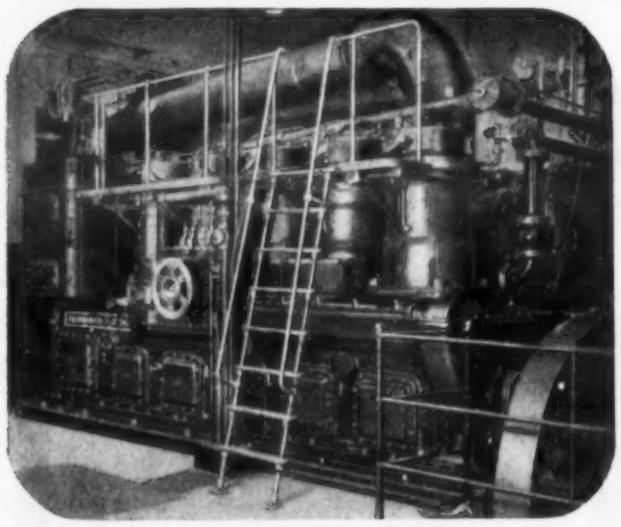
Wherever materials must be handled, set up one or more sections of this sturdy, flexible, and efficient conveyor in a few minutes. Save time, space, and labor . . . reduce handling costs. Ends "aisle-jamming", because it eliminates need for trucks and dollies. Collapsible, spring steel side frames, roller capacity 80 lbs. each. 60" and 100" lengths, various roller widths. For free literature on FMC standard and accordion conveyors, address Dept. E.



Roller design keeps box on conveyor regardless of curves.

FOOD MACHINERY CORPORATION
RIVERSIDE DIVISION: RIVERSIDE, CALIFORNIA

▲ Mention Item NED-6027 when writing ▲



DIESEL SHOWS $12,873.66 Savings FOR GLASS COMPANY

• Producing more than one million kilowatt-hours in 12 months of operation, a Fairbanks-Morse Diesel unit recorded a saving of $12,873.66 in comparison with another source of power for Cambridge Glass Company.

Here's more evidence of the ability of Fairbanks-Morse Diesels to generate sustained power. It's more evidence that their heavy-duty design coupled with low operating and maintenance costs, are the answer to industry's search for dependable power. No obligation is involved in having a Fairbanks-Morse engineer study your power problems. Write Fairbanks, Morse & Co., Fairbanks-Morse Building, Chicago 5, Illinois.

Buy and Hold More Victory Bonds

Fairbanks-Morse
A name worth remembering

Diesel Locomotives • Diesel Engines • Generators • Motors • Pumps • Scales
Magnetos • Stokers • Railroad Motor Cars and Standpipes • Farm Equipment

▲ Mention Item NED-6028 when writing ▲

DRILL CONTROL UNIT

Controlling deep hole drilling of small holes in metal, wood or plastics, Pre-Selectric power feeder provides automatic chip clearance at preselected depths during drilling or tapping operation. It is claimed to drill No. 50 holes through alloy steel plate to full length of drill without drill breakage and with less dulling of drill than when controlled by hand. It can also be used for honing, lapping and reaming.

Control unit is attached to drill press by positioning clamp on drill press column and attaching collet to feed shaft. Positioning of unit is not critical since it is governed by alignment of collet with spindle feed shaft. Weight of unit is balanced on its support arm. Installation can be accomplished in less than 10 minutes.

All controls are available to operator from normal position. Switches at top of panel are on-and-off for automatic operation, up and down control switches, and main power switch. Lower row of dials controls depth of drill and extent to which drill is raised for chip clearing. Drill can be partially or fully raised from hole to clear chips. Timer controls length of drilling time between chip clearances. Pressure adjusting knob determines amount of pressure on drill. Unit operates on 110-volt single phase or 220/440-volt three phase current. Made by James H. Knapp Co., Dept. N, 4921 Loma Vista Ave., Los Angeles 11, Calif.

▲ Mention Item NED-6029 when writing ▲

HARDNESS TESTER

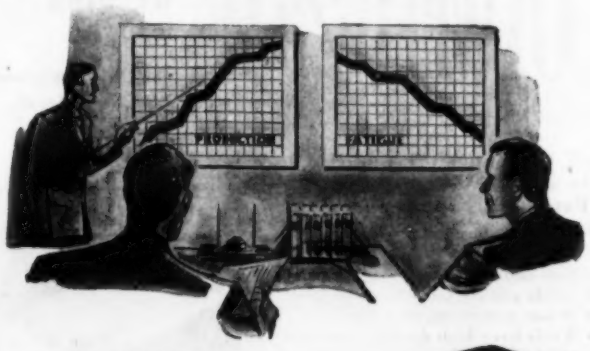
Designed for handling large or cumbersome parts, hardness testing device employs either diamond or steel ball penetrator to give Rockwell reading. Both penetrators are furnished as standard equipment. Parts ranging from ½ to 26 inches can be handled.

Table can be raised or lowered by hand crank. Position of capstan which is mounted on side of machine can be correspondingly adjusted in relation to table height. Heavy parts are loaded onto roller bearing carriage on table to provide easy method of positioning.

Readings are taken in same manner as with smaller capacity Rockwell tester. By means of capstan, indicator is set at zero on minor loads. Major load weight is released and direct hardness reading is taken from indicator. Made by Clark Instrument, Inc., 10200 Ford Rd., Dearborn, Mich.

▲ Mention Item NED-6030 when writing ▲

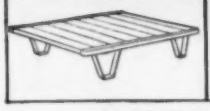
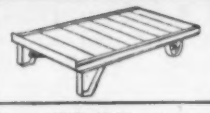
SKID PLATFORMS DESIGNED TO DO THE JOB CORRECTLY... *INCREASE* PRODUCTION AND *REDUCE* WORKER FATIGUE



PROTECT EMPLOYEES
REDUCE WORKER FATIGUE
BUILD BETTER MORALE

Write For Bulletin 40

IRONBOUND BOX & LUMBER CO.
Materials - Handling Division
55 HOFFMAN PLACE HILLSIDE, NEW JERSEY

SKID PLATFORMS	SEMI-LIVE SKIDS	FLOOR TRUCKS
		

▲ Mention Item NED-6031 when writing ▲

Aero Precision Micrometer Stop ★ Countersink and Counterbore Interchangeable Cutters

$7.25 WITHOUT CUTTERS

For Use On All Metals

The incomparable Aero Micrometer Stop...used for precision high production throughout the aircraft industry...now available as a stronger, heavier precision tool for all metals! Absolute depth control with finger-tip adjustments in increments of .001 inches... automatic locking... maintains concentricity within .001 inch...fully ballbearing. Backed by *Free Factory Service Guarantee.* Belongs in every shop...small or large. Order today.

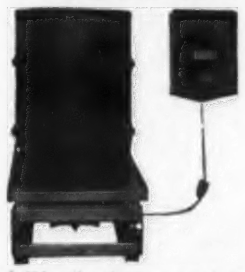
ORDER DIRECT FROM:

AERO TOOL COMPANY
231 WEST OLIVE STREET
BURBANK, CALIFORNIA

▲ Mention Item END-6032 when writing ▲

INCREASE THE CAPACITY OF YOUR CONTAINERS with *SYNTRON*

"High-Speed" Electromagnet
VIBRATORY PACKERS



3,600 vibrations per minute—rheostat controlled power for variable adjustment to meet material requirements.
Capacity from large barrels to small containers.

"Explosion-Proof" Fluid Operated
HYDRAULIC JOLTERS

100 short, sharp jolts per minute are particularly effective on packing light, fine, fluffy materials and for general use in hazardous locations—under explosive atmospheric conditions, etc.

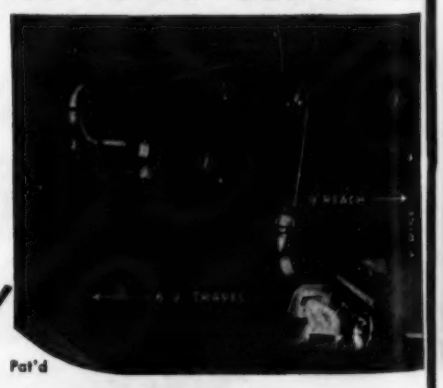
WRITE US ABOUT YOUR PROBLEM

SYNTRON CO.
405 Lexington, Homer City, Pa.

▲ Mention Item NED-6033 when writing ▲

RUEMELIN Fume Collector

• Removes WELDING FUMES *at the Source!*



Pat'd

No longer need employees inhale welding fumes. A Ruemelin Fume Collector solves the problem, quickly and efficiently. Produces powerful suction that draws out noxious gases, smoke and heat *at the source.* Guards employee health, resulting in less welder fatigue, therefore greater plant output. Clears shop air with minimum loss of building heat. Covers maximum welding territory, vertically, horizontally and by circle swing. Shipped assembled, easy to install. 9 ft. and 15 ft. sizes (radius of swing).

We gladly offer engineering service for your fume collector installation. Write for Bulletin 37-C.

RUEMELIN MFG. CO.
3883 N. PALMER STREET • MILWAUKEE 12, WIS., U. S. A.
MANUFACTURERS AND ENGINEERS
SAND BLAST AND DUST COLLECTING EQUIPMENT, WELDING FUME COLLECTORS

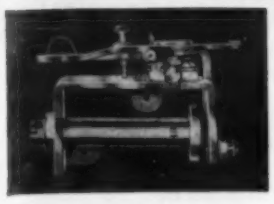
A 4709-¼A-R

▲ Mention Item NED-6034 when writing ▲

POSITIVE SNAP ACTION

0.02 WATT SENSITIVITY

79XAX



SIMPLIFIED CONSTRUCTION . . . Features include snap action contacts; high sensitivity; low operating power; statically balanced armature and contact assembly; six easily accessible adjustments; good contact wipe and stable contact pressure.

Struthers-Dunn Type 79XAX snap action d-c operated relay is a positive acting sensitive unit for circuits with slowly changing control currents Erratic operation and varying contact resistance encountered with ordinary sensitive relays are eliminated. Applications cover a broad range of use from vacuum tube circuits, to overcurrent protection, pulsing circuits, and others where extremely close differential or sensitivity of operation is required. *WRITE* for Data Bulletin 79XAX.

STRUTHERS-DUNN, Inc., 1321 Arch St., Philadelphia 7, Pa.

STRUTHERS-DUNN
5,312 RELAY TYPES

▲ Mention Item NED-6035 when writing ▲

ADJUSTABLE WORK LIGHT

Applicable for attachment to machine tools, assembly benches and desks, Swivelier Work-Lite is equipped with Greenfield cable and leads for direct attachment to outlet box or transformer. Entire unit is thus grounded.

Unit is available with arms ranging from 12 to 30 inches long. Cone, bell, parabola or acorn shades can be furnished, with or without removable glass lenses. These can be frosted, clear or daylight type. Having spring construction, socket is universally adjustable and will not work loose as result of vibration. Wires are completely enclosed and will not twist. Entire arm is also universally adjustable in base and has same type of spring construction used in socket. Made by **Swivelier Co.**, Dept. NEQ, 30 Irving Pl., New York 3, N. Y.

▲ Mention Item NED-6037 when writing ▲

PROGRESSIVE HONING FILM

Entitled "Progressive Honing—with Automatic Sizing", sound motion picture is suited to showing to industrial personnel interested in metal finishing and machine tool operation. Recent developments in surface processing of metals are included as well as construction and operation of new tools, operation of microsize and hydrosize control, and application to mass production methods. Produced by Jam Handy Organization for **Micromatic Hone Corp.**, 8100 Schoolcraft Ave., Detroit, Mich.

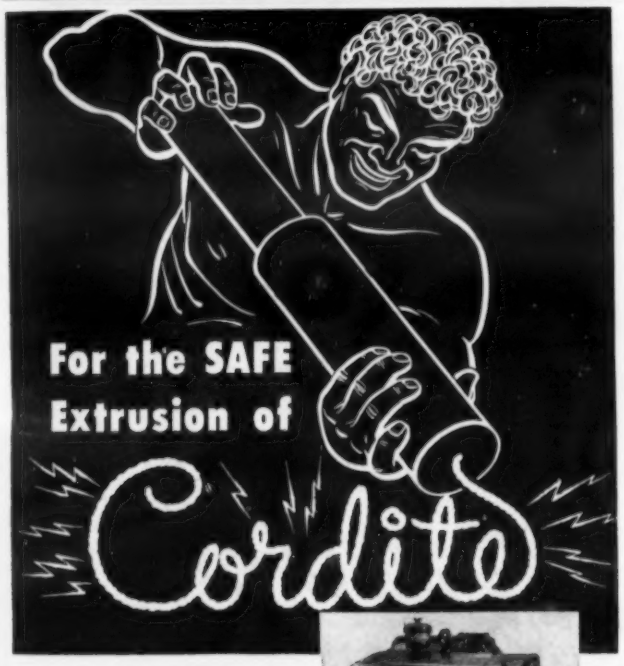
▲ Mention Item NED-6038 when writing ▲

UNIT TYPE DUST COLLECTOR

Designed for use on large wheel dry grinders, disc grinders, sanders and polishing and buffing equipment, model 1150 Dustkop dust collector is equipped with thick flat filter in place of round type. Because of its compactness, collector can be placed behind grinder and buffer without moving them. Connection between dust outlets and collector is completed with flexible metal hose or standard sheet metal pipe. Electrical connection into starter circuit of grinder completes installation.

Dust, dirt and lint are drawn into unit by paddle wheel fan which is direct driven by continuous duty 1½-horsepower 3450-revolution per minute motor. Cyclone separator extracts most of dust and dirt from air stream and spun glass filter removes extreme fines. Dust collecting bin occupying bottom of cabinet has drawer for easy disposal of collected dust. Made by **Aget-Detroit Co.**, 602 First National Bldg., Ann Arbor, Mich.

▲ Mention Item NED-6039 when writing ▲



THEY TURNED TO OILGEAR FLUID POWER

Far more powerful than TNT, cordite requires the utmost care in its extrusion. A shade too much pressure, a shade too much speed, a small infraction of cycle sequence . . . and unpleasant things will happen. Curbing this danger and meeting the increased wartime demand for cordite and rocket powders were problems solved by Oilgear engineers. Oilgear Fluid Power is now standard on cordite extrusion presses made by seven large manufacturers. Essential functions attained are rapid advance . . . preset automatic slowdown approach and shockless contact . . . automatic pickup in speed and pressure . . . preset maximum extrusion speed . . . automatic stop to dissipate energy . . . preset and rapid return plus important safety features.

Oilgear Fluid Power units of this type are the heart of cordite extrusion press performance.

If your rotary or straight line power transmission problems demand exquisite speed and pressure control . . . or require unique functions . . . or present fire hazards and the like, *you need Oilgear*. Write for information now. THE OILGEAR COMPANY, 1316 W. Bruce Street, Milwaukee 4, Wisconsin.

OILGEAR
Fluid Power

▲ Mention Item NED-6036 when writing ▲

The finest Standardized Bronze Bearings ever produced are now available for every production and maintenance requirement. Hundreds of Bunting Stock-Carrying Distributors serve industry from comprehensive stocks. Ask your Distributor for the Bunting Catalog. The Bunting Brass & Bronze Company, Toledo 9, Ohio.

Bunting
BRONZE BEARINGS ☆ BUSHINGS ☆ PRECISION BRONZE BARS

▲ Mention Item NED-6040 when writing ▲

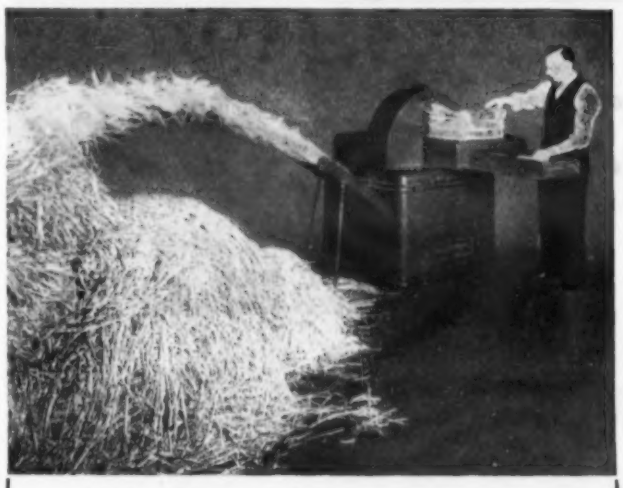
SIMPLEX PRODUCTOGRAPH

makes machines talk

Why do machines stop? The elapsed time between stops and starts often tells a startling and, sometimes, amazing story. It reveals solutions to perplexing production problems. The Simplex PRODUCTOGRAPH, attached to one or a group of machines, automatically delivers a printed time record of each stop and start. Users tell us that it saves thousands of dollars to know the cause and effect of waits and delays. Ask for folder D-10.

SIMPLEX TIME PRODUCTS
SIMPLEX TIME RECORDER COMPANY · GARDNER, MASS
Branch offices in principal cities

▲ Mention Item NED-6041 when writing ▲



Make Use of Your Wastepaper

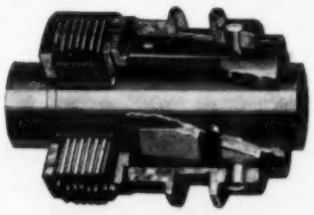
In addition to quickly, easily and efficiently shredding and fluffing old newspapers, magazines and wastepaper this hand machine provides an efficient method of destroying confidential paper. Converts wastepaper into paper excelsior for packing and shipping and automatically delivers excelsior to containers and balers. Provides constant source of clean, inexpensive, easy to handle packing material. Does away with baling old papers—gives you extra storage space. A sample of your wastepaper will be shredded and returned to you without obligation if sent to Mitts & Merrill, Dept. IM, Saginaw, Mich.

Advt.

▲ Mention Item NED-6042 when writing ▲

Specify **ROCKFORD** *For* **PULLMORE MULTIPLE-DISC CLUTCHES**

COMPACT DESIGN *
HIGH TORQUE
HIGH-RATIO LEVERS
POSITIVE NEUTRAL
PRECISION BUILT
LONG WEAR LIFE
EASY ADJUSTMENT



* These compact, powerful, multiple-disc clutches are helping product engineers to reduce size and weight at the vital link between the driving and driven units of machine tools, lift trucks, overhead cranes and a wide variety of other production equipment. They readily fit into product designs, accommodating great torque capacity within small size. Precision grinding insures perfect fit on the clutch shaft. Symmetrical contours avoid drag that is caused by centrifugal force.

SEND FOR THIS HANDY BULLETIN ON POWER TRANSMISSION
It shows typical installations of ROCKFORD CLUTCHES and POWER TAKE-OFFS Contains diagrams of unique applications. Furnishes capacity tables, dimensions and complete specifications. Every production engineer will find help in this handy bulletin, when planning postwar products.

ROCKFORD CLUTCH [FORMERLY KNOWN AS] **DIVISION** BORG-WARNER CORPORATION
312 Catherine Street, Rockford, Illinois, U. S. A.

ROCKFORD CLUTCHES

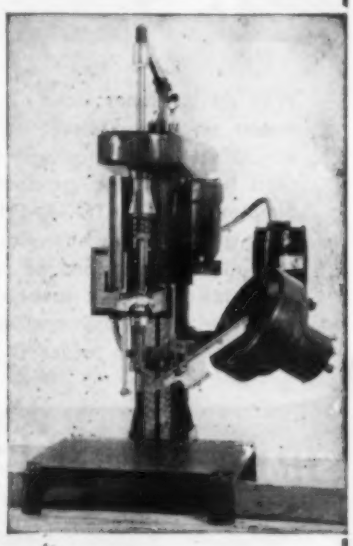
▲ Mention Item NED-6043 when writing ▲

YOU CAN'T BEAT THIS SCREWDRIVER

24 Hour Production Schedules Maintained

THINK OF IT

Drives No. 2, 4 or 6 screws from 1/16" to 3/4" long, at one second each.



ALL SCREWS DRIVEN TO A UNIFORM TENSION

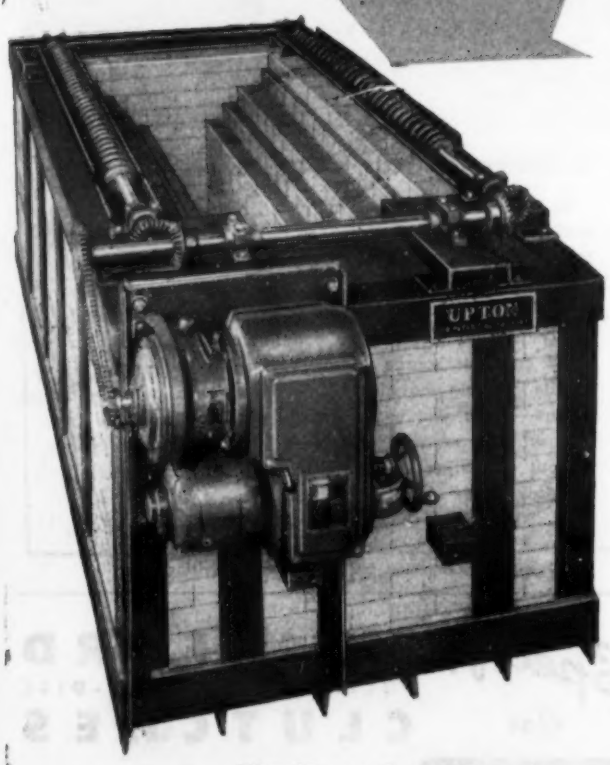
No Marring of Heads

Send Sample Assemblies For Estimates.

DETROIT POWER SCREWDRIVER CO.
2819 West Fort Street Detroit 16, Michigan

▲ Mention Item NED-6044 when writing ▲

New Speed Quench FURNACE



The Upton Speed-Quench Furnace is built with a series of step-backs and employs a system of balancing the high radiation rate with an input of heat at the bottom of the pot.

The result: A vigorous, continuous surge of molten salt throughout the entire bath. Work that is quenched by *this* strong wash comes out of the bath perfectly and uniformly quenched.

Ask for complete information now.

Upton ELECTRIC FURNACE DIV.
7439 MELVILLE AT GREEN
DETROIT 17, MICHIGAN

▲ Mention Item NED-6045 when writing ▲

FLOATING ANCHOR NUT

Available in sizes from No. 6-32 to 3/8-inch-24, Click floating anchor nut employs replaceable standard nuts. Unit consists of base, retainer, nut and steel spring clip. Clip holds nut securely in place but can be disengaged easily by prying up with screwdriver. Damaged nuts can be replaced readily without special tools or need for drilling out rivets.

Since nut floats in all directions, self-alignment of nuts with bolt axis is insured. Aluminum base has high resistance to torque and thrust. Flanges will not bend and nuts cannot be pushed out. Unit can be used with high temperature nuts up to 650 degrees Fahr. Made by **Kaynar Mfg. Co.**, 820 E. Sixteenth St., Los Angeles 21, Calif.

▲ Mention Item NED-6046 when writing ▲

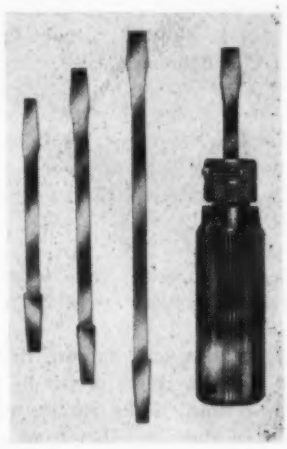
HALF ROUND HAND HONE

Effective on carbide, Stellite, high speed steel or carbon steel tools, half round diamond impregnated hand hone is suited to finishing a radius on form cutting tool, die, punch or drawing die. While tool is still in its original set-up, cutting edge can be touched up. Half-round hone is also useful for deburring items in production line. It can be used to finish materials such as synthetic corundum, vitrified silicas and glass.

Half-round hone is available with radius of 3-16, 1/4, 5/16, 3/8, 7/16, 1/2, 9/16, 5/8, 3/4, 7/8 and 1 inch. Grit sizes are 320, 220 and 100 grit. Made by **Oscap Mfg. Co.**, 207 W. Saratoga St., Baltimore 1, Md.

▲ Mention Item NED-6047 when writing ▲

SCREWDRIVER SET

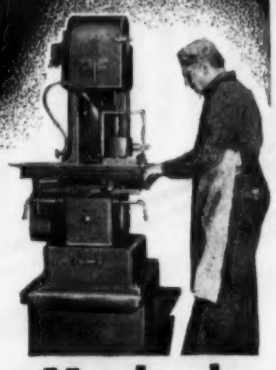


Any size of screwdriver to fit specific job is quickly available with Day tool driver and blade set. Tool is available in two sizes. Small size consists of tool driver with simplified locking nut and four blades ranging from 1½ to 5½ inches in length. Larger size is composed of tool driver with locking nut and four blades ranging from 8 to 14 inches in length.

Tool driver handle is constructed of durable plastic with alloy steel locking device that holds blade securely in handle yet allows for its instant release by flick of thumb. Blades are drop forged from high grade alloy steel. Made by **Speedway Engineering Co.**, Dept. E, 2479 Fletcher Dr., Los Angeles 26, Calif.

▲ Mention Item NED-6048 when writing ▲

TRY WET-BELT MACHINING FIRST!



Before you decide on any method, learn all the advantages of

The Modern Method

- 5 to 25 times faster!
- Holds limits of .0005"!
- Superior finish—achieved faster!
- Only simple jigs and fixtures! (Those required are made quickly and cheaply).
- Automatic feed available!
- Saves set-up time!
- Cuts loading and unloading time!

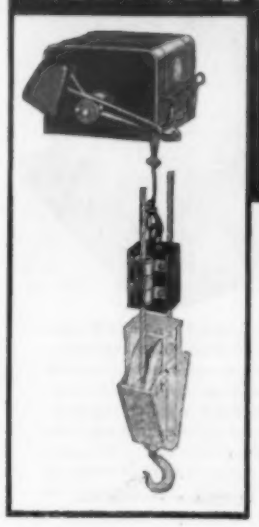
Write or wire for full details — try it on your job!

Send drawings or sample pieces for our Methods Study—No obligation

PORTER-CABLE Machine Co.
1710-10 N. Salina St., SYRACUSE 8, N. Y.

▲ Mention Item NED-6049 when writing ▲

NEW NO. 20 YOUNGSTOWN SAFETY LIMIT Stop for Cranes REQUIRES NO LUBRICATION



Super-oilite bearings are used on the main shaft of this new No. 20 Youngstown Limit Stop. They are self-lubricating . . . eliminating the costly and sometimes forgotten item of lubricating maintenance.

Operated directly by the hook block, this Limit Stop not only disconnects the motor from the line but brings it to a quick stop by dynamic braking on the direct current type.

Removes the fear of an overhoisting accident from the operator's mind, enabling him to do better . . . and more work.

Easily applied to new or old cranes, either a-c or d-c. Completely described in Folder 1035. Write for a copy.

THE ELECTRIC CONTROLLER & MFG. CO.
CLEVELAND, OHIO
BRAKES MAGNETS LIMIT-STOPS MOTOR-CONTROL

▲ Mention Item NED-6050 when writing ▲

For Speedy Parts Delivery

use the "Buda Chore Boy!"

■ Speed up delivery of parts, boxes, barrels and other materials—with the versatile BUDA Chore Boy. The Chore Boy is a trouble-free truck that will go anywhere in a hurry without a hitch—all on a single gallon of gas a day. Write or wire today for illustrated bulletins on this and other money-saving BUDA products.

Send today for descriptive literature.

THE BUDA COMPANY
15419 Commercial Ave., Harvey, Chicago Suburb, Illinois

▲ Mention Item NED-6051 when writing ▲

HALLOWELL brings you what you want in Shop Equipment of Steel

Fig. 1851

The "Hallowell" line comprises a great variety of shop and plant equipment, to fill your every want and need. Below, are only two of the many items famed for their long service, wearability, and fine quality.

Fig. 1851—"Hallowell" Tool Stand. Rugged welded, all-steel construction on easy rolling swivel casters make this tool stand a handy and efficient piece in any shop.

Fig. 1249—"Hallowell" Steel Stool. Sturdy, welded steel construction. Wobble-proof style with adjustable spring posture back. Heights from 14" to 36" inclusive.

To help you choose your "Hallowell" Shop Equipment of Steel, send for our Catalog.

Fig. 1249

OVER 40 YEARS IN BUSINESS

STANDARD PRESSED STEEL CO.
JENKINTOWN, PENNA. BOX 581

Boston, Chicago, Detroit, Indianapolis, San Francisco, St. Louis

▲ Mention Item NED-6052 when writing ▲

WHETHER for sawing lightest sheet or hardest alloy bar, by power or by hand, just the right blade is always to be had in the Griffin line. Every blade uniformly dependable, backed by one of America's very oldest manufacturers of hack saw blades. For toughest alloys — GRIFFIN HIGH SPEED STEEL . . . For all but very hardest alloys, GRIFFIN MOLYBDENUM HIGH SPEED STEEL . . . For most economical all-purpose hand sawing, GRIFFIN SOFT CENTER . . . For thin sheet metal, tubing, etc., GRIFFIN NON-STRIP . . . At your local Griffin distributor's. Send for Price List.

General Sales Agent

JOHN H. GRAHAM & CO. INC.
105 Duane Street, New York 8, N. Y.

GRIFFIN
Hack Saw Blades
MADE BY G. W. GRIFFIN CO., FRANKLIN, N. H. • 1880-1945

▲ Mention Item NED-6053 when writing ▲

Clean Drains Quickly
without MUSS or FUSS with...

Electric Eel is a power operated waste line cleaner that has tools for cleaning pipes from 1¼" to 6" in diameter. You can open drains in your plant without digging, without moving heavy equipment, and open them in minutes instead of days. Many plants report the opening of one stoppage with "Electric Eel" more than paid for its low cost. Don't wait, write today for information—have "Electric Eel" on hand when the next stoppage occurs. It may be tomorrow.

Write for Catalog!

The Ohio Tool & Engineering Co.
Dept. ND-85 Springfield, Ohio

▲ Mention Item NED-6054 when writing ▲

How Thousands of Gasket Improvements are being effected by Fel-Pro Developments in Thiokolized Gaskets

For that New Design . . . or Re-Design! *Investigate* the 2 BIG ADVANTAGES of Fel-Pro's Pioneering Development and Production of Thiokolized and other specially treated Gasket Materials.

Through Thiokolizing and other treatments of such gasket materials as Felpak, Karropak, Fishpaper, Chipboard, Fibre, Cork etc. . . . many new, improved gaskets are being produced for thousands of America's leading manufacturers.

Most of these were developed originally to meet a specification . . . a car builder needed a more durable, oil resisting gasket . . . an electrical device maker, similar material with high insulating and sealing qualities . . . an auto accessory maker, an oil resisting gasket with tremendously high tensil strength . . . etc.

Fel-Pro has the Know-How, to provide the proper gaskets for your requirements and the PRODUCTION KNOW-HOW to produce them ECONOMICALLY and to highest quality standards. *Write Today for* FREE PORTFOLIO OF LATEST SEALING MATERIALS *and further details of our* NO CHARGE CONSULTATION SERVICES.

with Sealing Materials, Gaskets, Packing, Sound and Vibration Dampeners, Washers, specially die-cut, treated and fabricated by

1198

FELT PRODUCTS MFG. CO., 1510 CARROLL AVE., CHICAGO, ILL.

▲ Mention Item NED-6055 when writing ▲

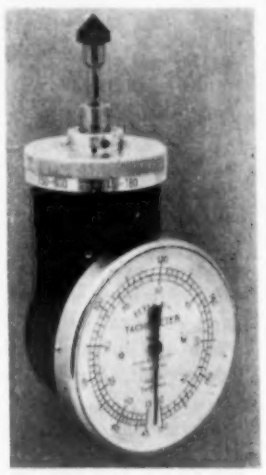
LIGHTWEIGHT EYESHIELD

Weighing less than 1 ounce, this plastic eyeshield is intended to provide eye protection on semihazardous work such as spot welding, light grinding and woodworking. Designated Feather-Spec, it consists of one-piece plastic lens, gripped tightly in suspension - lock frame. Lens can be exchanged or replaced in 10 seconds by slight pull which releases it from frame. Thus, green lens can be substituted for clear lens if work involves glare. Eyeshield can be worn over prescription glasses to give added protection. Only one size is needed to fit any type face. Made by **Willson Products, Inc.**, 207 Thorn St., Reading, Pa.

▲ Mention Item NED-6056 when writing ▲

TACHOMETER

Precision, direct reading tachometer has two scales and five ranges. Ranges are 45 to 180 revolutions per minute, 150 to 600 revolutions per minute, 450 to 1800 revolutions per minute, 1500 to 6000 revolutions per minute, and 4500 to 18,000 revolutions per minute. Change of range is accomplished by rotation of knurled barrel head. Instrument is supplied with carrying case and accessories, including 6-inch circumference wheel for measuring surface speeds. Large dial has clear figures which are read easily. Made by **James G. Biddle Co.**, 1215 Arch St., Philadelphia 7, Pa.



▲ Mention Item NED-6057 when writing ▲

PROTECTIVE APRON

Suitable for use in canning, processing and other industries, lightweight, acid, alkali and oil resistant apron is made from fabric coated on one side with black vinyl resin. Neck and waist tape is in one piece sewed into hem of arm cutout to give apron strength and rigidity as well as good fit. All edges are hemmed. Sizes available are 29 by 35 inches and 35 by 45 inches. Apron fits body of wearer snugly so as to afford adequate protection against acid or caustic liquids which might be splashed or sprayed on him during normal work. Made by **B. F. Goodrich Co.**, Dept. E. 500 S. Main St., Akron, O.

▲ Mention Item NED-6058 when writing ▲

Here's WHY . . . OAKITE TRI-SAN'S
For Plant Housekeeping
Your BEST Buy!

Because in One Operation . . .
Oakite TRI-SAN *deodorizes* . . . destroys the most potent odors completely . . . does not MASK one odor with another.
Oakite TRI-SAN *disinfects* . . . its application to surfaces kills bacteria . . . leaves surfaces germ-free, sanitary.
Oakite TRI-SAN *cleans* . . . its mild alkalinity removes light soil.

This remarkable, triple-acting agent is astonishingly *economical* . . . effective dilution of TRI-SAN, one ounce to a gallon of water, costs but a penny! Thus, Oakite TRI-SAN is truly your *best* buy!

Interesting 20-page booklet on Oakite TRI-SAN is FREE for the asking. Write for a copy TODAY!

OAKITE PRODUCTS, INC., 32G Thames St., NEW YORK 6, N. Y.
Technical Service Representatives in All Principal Cities of the United States and Canada

OAKITE *Specialized* **CLEANING**
MATERIALS · METHODS · SERVICE

▲ Mention Item NED-6059 when writing ▲

HOBART *Helps You Change to Better, More Economical Welded Design*

With this new design service, Hobart is helping industry to improve their products and reduce their production costs. Investigate "Practical Design for Arc Welding" today . . . three volumes of 100 designs as compiled by one of America's foremost welding consultants. These designs have improved the products and reduced production costs for various industries and can do the same for you.

Only $3.50 *ea. Set of* 3 *for* $10.00 *postpaid.*
HOBART BROS. CO.
BOX ND-185 TROY, OHIO

Free! Welder's "Handy Vest Pocket Guide" that contains charts, tables, other welding information.

HOBART *"Simplified"* **ARC WELDERS**

"One of the World's Largest Builders of Arc Welders."

▲ Mention Item NED-6060 when writing ▲

Uniform Quality

● One reason why Johnson General Purpose Bearings are so easy to install is because they are uniform . . . in size . . . tolerance . . . and alloy. It makes little difference whether your order is for 100 or 1000 they ALL will slip right into place with a minimum of effort. Why not try them on your next job?

Write for Catalogue.

JOHNSON SLEEVE BEARING **BRONZE** HEADQUARTERS
580 S. MILL STREET NEW CASTLE, PA.

▲ Mention Item NED-6061 when writing ▲

The facilities behind "Chicago Screw" Products include the finest precision equipment, designed and built to maintain the very closest production tolerances. This modern machinery plus laboratory facilities plus the latest type automatic gauging devices, adds up to a uniformly accurate product ideally suited for quick and trouble-free assembly.

On your future requirements, specify Chicago Standard Screw Products. They are unsurpassed for the needs for which they are made.

These Fine Products are sold only thru Authorized Distributors

THE CHICAGO SCREW CO.
1026 S. Homan Ave. Chicago 24, Ill.

▲ Mention Item NED-6062 when writing ▲

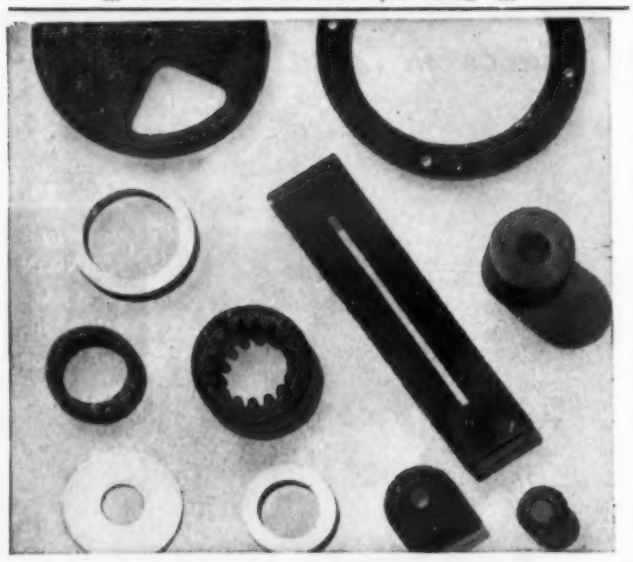
NO OTHER TOOL LIKE H&H RECIPROCATING ACTION

PORTABLE Electric TOOL
★ COMPLETE WITH MOTOR ★

Motion is "in and out"—not spinning or rotary. Tool is portable—carry it anywhere—five pounds—easy to handle. Self powered. Ready to plug into any 110 volt electric outlet. Built to supplant hand finishing, and for bench work, on metal, wood, plastic or other materials that require filing, burring, honing or polishing. Delivers 1000 short, accurate strokes per minute, much faster than hand methods, no chattering. Complete line of files, scrapers, hones and other accessories available. Change accessories in 20 seconds because no other parts need be removed or added. Used in largest plants and small shops. Prompt shipments. *Send for catalog.*

H&H RESEARCH CO.
429 MARQUETTE BLDG • DETROIT 26, MICH.

▲ Mention Item NED-6064 when writing ▲



Complete Manufacturing Control Insures the Accuracy of FELTERS Cut Felt Parts

It's wise to buy cut felt parts from a company which controls *every* step of felt manufacture. You are *sure* of getting not only the correct shape, but the right quality, weight and thickness of felt to fit your requirements. Send for a free copy of the new Felters Cut Felt Parts Manual. It makes the ordering of cut felt parts easy.

The Felters Company
210-M SOUTH STREET, BOSTON 11, MASS.

▲ Mention Item NED-6065 when writing ▲

IRON HORSE BRAND OILY WASTE CANS *for Safety with Durability and Economy*

Constructed in accordance with Underwriters Laboratory Specifications. Approved by Associated Factory Mutual Fire Insurance Companies.

Reinforced top—extra strength to stand up under rough treatment. Gravity closing for safety—can't stay open.

Opening mechanism hugs can exterior—no place for clothing to catch.

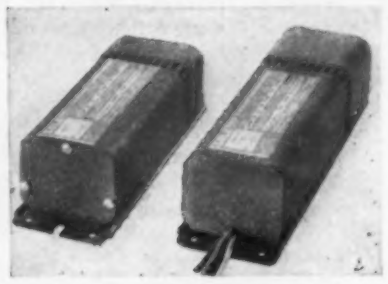
Man-size handles—securely riveted, make moving and handling much easier.

Full apron body amply ventilated for air circulation. Firm foundation eliminates tipping. Constructed of galvanized steel.

ROCHESTER CAN COMPANY
86 GREENLEAF STREET ROCHESTER 9, N. Y.

▲ Mention Item NED-6066 when writing ▲

COLD CATHODE TRANSFORMER



Designed for operation of 8-foot, 25-millimeter, low pressure cold cathode lamps, transformers assure constant light output regardless of supply voltage fluctuations as great as plus or minus 10 per cent. Ventilated case incorporates isolated condenser compartment to provide low condenser temperatures.

Transformers are compact units that fit into restricted installation channels. Single lamp type is provided with outlet box with knockouts to simplify wiring. In two-lamp style leads can be brought out through end or bottom. Made by **Sola Electric Co.**, 2523 Clybourn Ave., Chicago 14, Ill.

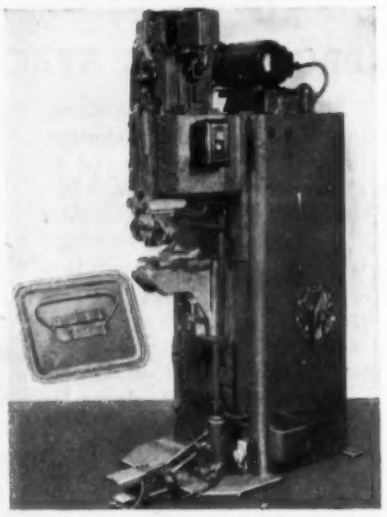
▲ Mention Item NED-6067 when writing ▲

SPECIMEN SHEAR

Intended for use with Taber V-5 stiffness gage, Triple Cut specimen shear assures accurate cutting of test specimens for uniform and comparable test results. It cuts 0.020-inch paper, plastic or thin metallic sheet and foil in preparation for stiffness or resilience test. Straight edge of sample sheet is placed against back gage of shear which is pushed down. Specimens measure 1½ x 2¾ inches. Made by **Taber Instrument Corp.**, 111-D Goundry St., North Tonawanda, N. Y.

▲ Mention Item NED-6068 when writing ▲

RESISTANCE WELDING PRESS



With specially designed lower knee and upper terminal block, Thomson No. 1 welding press can be used to attach handle cleats to metal box covers. Lower die is faced with Electroloy xx alloy. Locating fixtures aid in lining up box corners. Upper die is equipped with eight individually-sprung electrodes and with fixture to locate handle cleats.

Welding press is motor operated, and incorporates solenoid clutch pull and electronic timing. Welding speed can be varied between 34 and 109 strokes per minute. Made by **Thomson-Gibb Electric Welding Co.**, Lynn, Mass.

▲ Mention Item NED-6069 when writing ▲

Electricity

Models range from 330 to 15,000 watts, A. C. types from 115 to 660 volts, 50, 60, 180 cycles, single or three-phase and 400, 500 and 800 cycles, single phase. D. C. types from 6 to 4000 volts. Also available in dual voltage and special frequency types.

Onan

FOR ANY JOB—ANYWHERE

ONAN ELECTRIC GENERATING PLANTS supply reliable, economical electric service for industrial uses, as well as for scores of other general applications.

Driven by Onan-built, 4-cycle gasoline engines, these power units are of single-unit, compact design and sturdy construction. Suitable for mobile, stationary or emergency service.

Model shown is from W2C series; 2000 to 3500 watts; powered by Onan-built two-cylinder, water-cooled engine

D. W. ONAN AND SONS
2610 Royalston Ave.
Minneapolis 5, Minn.

Write For Folder 690-A describing complete Onan Line

▲ Mention Item NED-6070 when writing ▲

MORE AIR
with LESS Motor Care

Propellair Extended-Shaft Ventilating Fans permit the use of simple duct work while locating motor *outside* air-stream for protection from harmful fumes, explosive gases, severe moisture, or excessive heat. The motor is mounted on a rigid fabricated steel or cast base, and flexibly connected to the drive shaft which is carried on two precision ball bearings, and protected within a steel tube. Blades of either cast aluminum or wood are made with varying pitch, curvature, and *thickness* to impart uniform velocity over *whole fan area.* Propellair airfoil-section blades are marvels of efficiency; deliver *most* air from *least* horsepower.

Learn more about this and other types of Propellair fans for industrial ventilation. Ask us for Catalog No. 10-NED.

PROPELLAIR, INC., Springfield, Ohio

PROPELLAIR

▲ Mention Item NED-6071 when writing ▲

NEED SCAFFOLDING ON YOUR PLANT RECONVERSION WORK?

√ *Immediately available for outright purchase, or*

√ *Lease or Rental Basis.*

Universal maintains a large stock of easy-to-erect patented "EZE-BILT" scaffolding and necessary fittings. These are interchangeable and can be arranged for vertical or horizontal applications. Erection service, too. Phone, wire or write for our low quotation.

PHONE: ZELIENOPLE 100

UNIVERSAL FITTINGS AND SCAFFOLDING CO.
ZELIENOPLE (Pittsburgh District), PA.

▲ Mention Item NED-6072 when writing ▲

AO SAFETY CLOTHING

Provides Your Workers With Complete Protection

AO Safety Clothing is designed to give your workers maximum protection from head to foot. As a result of expert designing, they are comfortable to wear. High quality materials and sturdy construction insure long, trouble-free service under even the severest working conditions.

The AO Safety Clothing line includes overalls, pants, chaps, aprons, jackets, coats, sleeves, gloves, mittens and spats. Phone or write your nearest AO Branch Office for complete information.

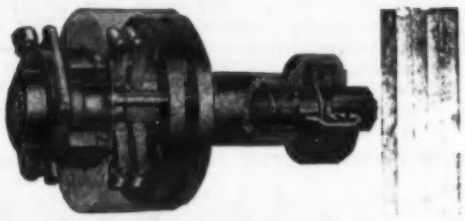
American Optical COMPANY
SOUTHBRIDGE, MASSACHUSETTS

▲ Mention Item NED-6073 when writing ▲

MULE-PULL CLUTCHES

SAVE TIME & LABOR

Drive your productive machinery by the powerful persistent torque developed by MULE-PULL Clutches . . . it saves time and boosts production by the smooth and instant acceleration it gives. The Loose Sleeves of these Clutches have RING-OILING lubrication which prevents ground-out bearings and avoids costly repairs. The single-arm, ANTI-FRICTION ROLLER TOGGLES which actuate these Clutches give high horse-power capacity: require no lubrication and are free from repairs even under constant in-and-out engagement. SEND FOR BULLETIN No. 25-D.



BROWN ENGINEERING CO.
129 NORTH 3RD ST. READING, PENNA.

▲ Mention Item NED-6074 when writing ▲

For simplified gang-stamping with faster interchanging of type

HERCULES HOLDERS

Features include:

- Stamps numbers or letters in any untempered metal or material.
- Exclusive extra body and shoulder style of type for added strength.
- No parts to loosen or wear out—made of shock-resisting alloy tool steel.
- Simplest interchangeable type holder made.

Especially suited for parts numbering on steel, stainless steel and alloys, castings, brass, aluminum, etc., these HERCULES Holders are available in both hand and press styles for one, two line, curved and convexed or concaved marking. Type is removable by mere finger pressure on clip, automatically self-locking in position.

Write for literature

THE ACROMARK CO.
7-11 MORRELL STREET, ELIZABETH 4, NEW JERSEY

▲ Mention Item NED-6075 when writing ▲

It Holds Everything!

All those so-different materials in that swing are bonded by *one* adhesive.

It's Pliobond . . . a revolutionary, quick-setting, *one-part* plastic adhesive that solidly joins any materials, like or unlike. And most applications need no high pressure or heat.

Pliobond is strong, permanent . . . withstands constant flexing, sets quickly, is immune to fungi, resists water, oils and wax.

Don't these features give you ideas toward solving production problems? Write for full technical information on any application you have in mind.

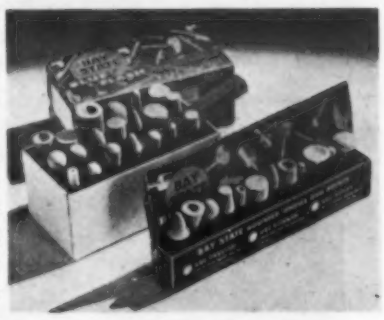
Pliobond for Home use will soon be available at your neighborhood store

Pliobond BONDS ANYTHING TO ANYTHING!

UNITED STATES PLYWOOD CORPORATION
Exclusive Distributors
55 West 44th Street, New York · Branches in Principal Cities
PLIOBOND* is a product of THE GOODYEAR TIRE & RUBBER COMPANY
*Trademark registered, The Goodyear Tire & Rubber Company

▲ Mention Item NED-6076 when writing ▲

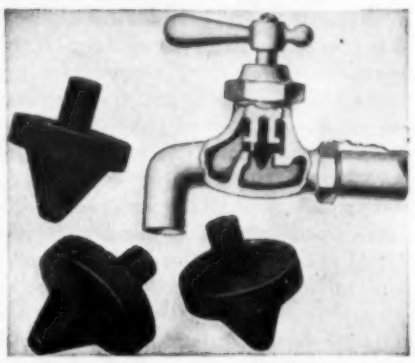
MOUNTED WHEELS & POINTS



Utility set of 12 mounted abrasive wheels and points supplements present 20-unit utility set, furnishing selection of styles and sizes of tool accessories most commonly used in industry. Sets are conveniently mounted in boxes for supplying operators with choice of tools. Made by **Bay State Abrasive Products Co., Westboro, Mass.**

▲ Mention Item NED-6077 when writing ▲

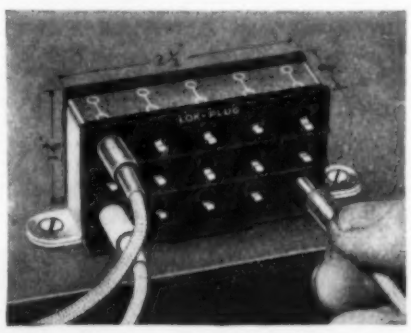
FAUCET WASHER



Leaky noisy faucets are repaired easily with Little Wonder faucet washer. Without use of tools, it is turned into place with fingers. Resilient material of washer conforms to shape of seat, whether new or irregularly worn. Positive grip and rotating disc action provide long service and eliminate pipe vibration. Washer is available in three sizes. Made by **Durst Mfg. Co.,** 462-468 Broadway, New York 13, N. Y.

▲ Mention Item NED-6078 when writing ▲

PLUG CONNECTOR



Accommodating wire sizes No. 26 through No. 10, Lok-Plug connectors employ multiple fingered spring inserts to provide uniform pressure on long wiping contacts. Unit can be furnished to handle practically any number of single or multiple circuit connections in any vertical or horizontal arrangement. Connectors in all sizes are furnished for surface or flush mounting. They are available for snap-on installations and ready removal without use of holding screws.

To facilitate circuit identification, insulation sleeves are available in six solid colors and in numerous color combinations. Butting against molded receptacle, these sleeves make each connector dead front unit. Connector is suited to reducing hook-up and disconnecting time in applications using up to 30-ampere, 250-volt current. Developed by Buchanan Research Laboratories, Inc. Distributed by **Buchanan Electrical Products Co.,** 2 W. Jersey St., Elizabeth, N. J., and **Penn-Union Electrical Corp.,** Erie, Pa.

▲ Mention Item NED-6079 when writing ▲

OLD FITTINGS CAN BE RE-USED WHEN SEALED WITH

KEY-TITE

Fittings or joints sealed with Key-Tite can be reopened without damage to the threads as Key-Tite positively will not "freeze" the joint. Key-Tite remains unchanged in formula and is an ideal, leak-proof sealer for lines carrying water, gas, compressed air, etc. It does not affect the color or taste of potable liquids and contains no lead nor lead substitutes.

Key-Tite is much more economical to use than ordinary pipe dopes as it gives greater coverage.

Put Key-Tite to the test. Send for a generous free sample or order from your jobber.

THE KEY Company
2001 McCasland Avenue East St. Louis, Illinois

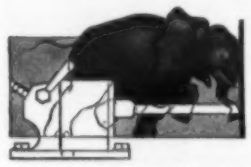
▲ Mention Item NED-6080 when writing ▲

Announcing **MEAD**

MIDGET AIR CLAMPS

Horizontal and Vertical!

Both models deliver 80 lbs. pressure on a line pressure of 100 lbs. They'll save countless man-hours in assembly operations involving welding, riveting, bolting, etc. *Advantages over mechanical clamps:* 1. Any number can be operated by single master valve. 2. Easily installed in cramped corners. 3. Equal ram pressure at any stroke point. Send for new Mead Air POWER Catalog describing our line of Air Clamps, Air Vises, Air Presses Work Feeders, Valves, Controls, etc. . .



MEAD SPECIALTIES COMPANY
4114 NORTH KNOX AVENUE, DEPT. NA-105, CHICAGO 41, ILL.

▲ Mention Item NED-6081 when writing ▲

THE ONE AND ONLY VALVE OF ITS KIND IN THE WORLD

BY *Remote Control*

THE ORIGINAL EXPANSIBLE TUBE TYPE VALVE

Grove Flexflo Remote Control Valves radically differ from conventional types of valves. They employ but one non-metallic operating part. Extremely resistant to corrosion, erosion and electrolytic action. Suited for handling water, salt water, chemical solutions, oil, gases and air. Operate by manual or automatic remote control—*Expanding to open—Contracting to close.* Write, today, for Bulletin 800.

GROVE FLEX-FLO REMOTE CONTROL VALVES

GROVE REGULATOR COMPANY
6533 GREEN ST., OAKLAND 8, CALIF. Branch Offices: 30 Rockefeller Plaza, New York 20 · 4644 Navigation Blvd., Houston 11, Texas · 1930 West Olympic Blvd., Los Angeles 6, Calif.

WRITE FOR BULLETIN 800

▲ Mention Item NED-6082 when writing ▲

DUST BREATHING IS DANGEROUS!

IT LEADS TO COLDS, SILCIOSIS, PNEUMONIA
IT LESSENS OUTPUT — SLOWS OPERATIONS.

GET RID OF DUST!

in Grinding, Polishing, Sanding, Sawing and Other Operations.

USE LEIMAN BROS.

New Unit Type

DUST COLLECTOR

ONE FOR EACH MACHINE

A powerful suction of air keeps dust away — safeguards the health, produces quicker results — Saves your machines.

Get the Free Information

LEIMAN BROS. 167G Christie Street NEWARK 5, N. J.

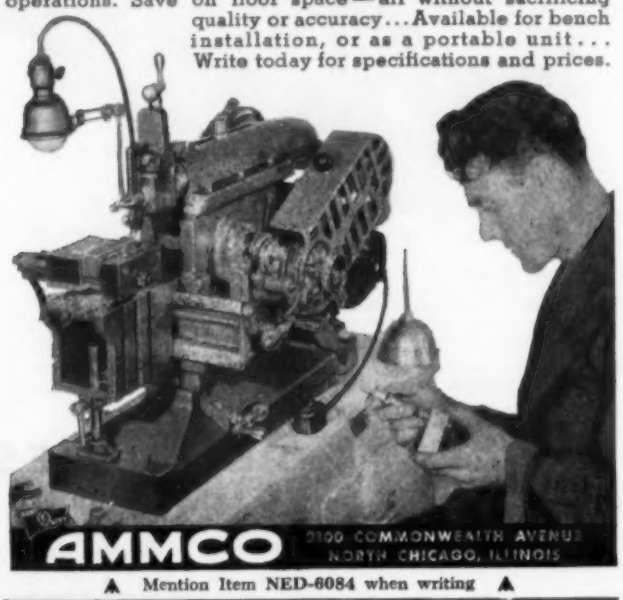
▲ Mention Item NED-6083 when writing ▲

AMMCO 7" SHAPER

A precision machine for precision work . . .

Phenomenal performance of the Ammco Precision Shaper in war production work is an indication of its great value in the postwar period when your competitive conditions put added importance on accuracy and low-cost production.

Make more money. . . Save on time and expense on set-up operations. Save on floor space — all without sacrificing quality or accuracy. . . Available for bench installation, or as a portable unit. . . Write today for specifications and prices.

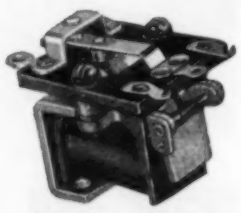


▲ Mention Item NED-6084 when writing ▲

New MIDGET RELAY by GUARDIAN

Series **295** for D. C. only

Size: 1 9/32" x 1 5/32" x 29/32"



★ You will find this lightweight miniature relay excellent for applications where space is at a premium and where weight is an important consideration.

For D.C. only. Switch capacity: double pole, double throw with 1.5 amp. contacts. Normal power requirements 1.75 watts. Small in size as indicated above. Weight: 1.2 oz. single pole, single throw.

Bulletin No. 295 gives further details

WRITE

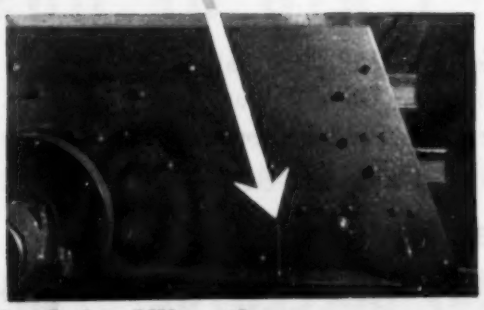
GUARDIAN ELECTRIC

1626-L W. WALNUT STREET CHICAGO 12, ILLINOIS

A COMPLETE LINE OF RELAYS SERVING AMERICAN WAR INDUSTRY

▲ Mention Item NED-6085 when writing ▲

HERE'S GRAPHIC PROOF of SECO'S *Engineered Balance*



All of the Vibration *is in the Screen*

In this unretouched photo a Seco Vibrating Screen is operating at 1050 R.P.M. Note pencil and washer standing upright on the base frame are unshaken. Here is true circular motion—under positive control. This pays off in more thorough screening—with less upkeep and attention. Choose a Seco for your job. Write Dept. D today!

SECO SCREEN EQUIPMENT CO., INC.
9 Lafayette Avenue, Buffalo 13, N. Y.

▲ Mention Item NED-6086 when writing ▲

BUTANE DISPENSERS

Butane and propane, which are being used widely for powering trucks, tractors and other heavy vehicles, and for heating and cooking in homes not supplied by public service gas

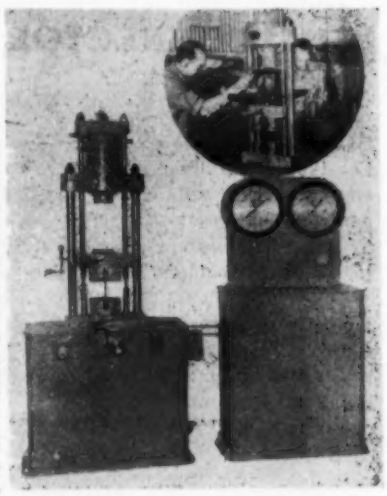
lines, are metered accurately in these filling station dispensers. Looking like standard gasoline pumps, units are engineered for safe, accurate metering of volatile liquid fuels which must be kept under pressure.

Buta-Fill nozzle prevents fuel from flowing through it unless connections between storage and receiving tanks are made correctly. Bleed valve discharges any entrapped liquid, thus preventing connecting ring from freezing when disconnections are made. This safety feature prevents operator from getting frostbites from parts refrigerated by rapid expansion of liquid fuel into gaseous state.

Explosionproof switch and control valve close automatically when operator takes his hand away, stopping flow of volatile liquid instantly in emergency or at end of dispensing. Excess flow valve closes automatically in case hose or nozzle ruptures. Swivel elbow prevents kinks in hose. Dial of meter reads from 1 quart to 100 gallons. Made by **Adel Precision Products Corp.**, 10777 Van Owen, Burbank, Calif.

▲ Mention Item NED-6087 when writing ▲

UNIVERSAL TESTING MACHINE



Tensile, transverse and compression tests up to 60,000 pounds are performed easily on this model MP-10 hydraulically operated universal testing machine. Maximum stroke of 6 inches is provided in cylinder and traverse table has maximum span of 30 inches. Piston and cylinder are precision lapped and no packing is used. Pulling head thrust is taken on large steel ball and socket which allows head to float. Upper and lower pulling heads are of conventional type, with wedge type jaws for both flat and round specimens. Holders are available for shoulder and thread end specimens.

Suitable load regulating valve maintains uniform load rating. Any load can be held for any period. Gages are furnished with "maximum" pointers and both gages are protected against overload. Gage selector valve is standard equipment. Hydraulic power is supplied by motor-driven pump in base of unit. Made by **Steel City Testing Co.**, 8843 Livernois Ave., Detroit 4, Mich.

▲ Mention Item NED-6088 when writing ▲

New Non-Slip Finish

Stanzoil Gloves

assure better work, lower cost hand safety

Objects wet with dangerous liquids are safely held by Stanzoil glove protected hands. Remarkable new non-slip finish adds assurance, speed to work, prevents costly hand injuries. Employees like the flexible comfort. You like the low cost — Stanzoils last 3 to 7 times longer in oils, acids, caustics. Standard sizes, styles, weights — black, white. For better employee relations, more production, less expense, buy Stanzoils. Write for new catalog today.

STANZOIL PIONEER

Synthetic Rubber Division
THE PIONEER RUBBER COMPANY
248 Tiffin Rd., Willard, Ohio, U.S.A.
New York · Los Angeles

OVER 25 YEARS OF QUALITY GLOVE MAKING

▲ Mention Item NED-6089 when writing ▲

One Valve CONTROLS TWO CYLINDERS

it's the NOPAK *Dual 4-Way!*

This valve has proven its merit in many applications in which dual cylinders are used in close relationship. This valve is so designed that two cylinders may be actuated in either direction, in any sequence desired.

A variety of operating cycles may be set up . . . and governed by a single control lever. This is a decided advantage in manipulating inter-dependent machine movements. The Dual 4-Way embodies all of the performance features which you expect of NOPAK Valves . . . easy, finger-touch operation, precision control, freedom from grit-abrasion, long-lived, trouble-free service.

GALLAND-HENNING MFG. CO., 2755 S. 31st Street, Milwaukee 7, Wis.

At present the NOPAK Dual 4-Way Valve is available in one size only, which may be used on pipe line ½" or smaller.

NOPAK VALVES AND CYLINDERS
DESIGNED for AIR and HYDRAULIC SERVICE

A 4872-1/9

▲ Mention Item NED-6090 when writing ▲

HOUSING PROBLEMS?

Here's your solution

HOUSING PROBLEMS are not the exclusive concern of architects and building contractors. Manufacturers and designers, too, are considering improved *housings* for the new products that are coming off the drawing boards . . . and are summing up now the many merchandising and manufacturing benefits they can gain by molding their cabinets, casings, and housings from sturdy, impact-resistant BAKELITE plastics.

Housings molded from BAKELITE plastics are dimensionally stable and resistant to wear and abrasion. Finish and color are self-contained. They provide excellent electrical and heat insulation, and the required structural strength to support interior mechanisms. And, previous limitations in designing plastic cabinets have been removed with the advent of the new heatronic molding technique—developed by Bakelite Corporation—that permits greater wall thicknesses, faster molding cycles, and easier molding of large parts on an economical basis. As a result, the scope of compression and transfer molding of BAKELITE plastics has been greatly broadened.

Redesigning with BAKELITE molding plastics can be an effective answer to postwar competition. Write Department 41 for booklet G-8, "A Simplified Guide to BAKELITE and VINYLITE Plastics." Also write for pamphlet describing heatronic molding.

The words "BAKELITE" and "VINYLITE" are registered trade-marks

TRADE B MARK

BAKELITE CORPORATION
Unit of
Union Carbide and Carbon Corporation
UCC
30 EAST 42ND STREET, NEW YORK 17, N.Y.

BAKELITE

TRADE-MARK

MOLDING PLASTICS

▲ Mention Item NED-6091 when writing ▲

LUCK

and These SPRAY NOZZLES Are Strangers

Spraying liquids at a closely controlled rate, in sharply defined spray patterns at precise spray angles is a specialty of Spraying Systems nozzles. Available in a wide variety of sizes, capacities and types, these nozzles are actually designed to do better, faster work on any spraying operation.

Your free copy of Catalog No. 22 will make a valuable addition to your reference file. Write for it today.

SPRAYING SYSTEMS COMPANY
4029 West Lake Street · Chicago 24, Illinois

SPECIALISTS IN THE DESIGN AND MANUFACTURE OF SPRAY NOZZLES

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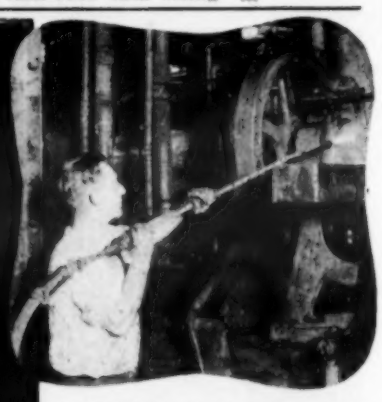
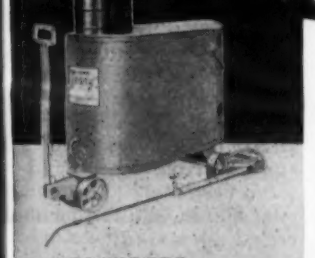
TO REPAIR MACHINES up to 40% Quicker Clean them first the JENNY "STEAM-SPRAY" WAY





HYPRESSURE JENNY steam cleaning of equipment before repairs cuts machine "down time" practically in half by saving 25% to 40% of mechanics' time usually lost wiping dirt and grease from machinery and tools. Besides the thorough HYPRESSURE JENNY steam cleaning often discloses defects in vital production machinery permitting repairs before costly failures occur.

JENNY also keeps mill and factory floors clean for safe, rapid plant traffic . . . cleans windows, walls and other equipment 8 to 10 times faster than by any other known method . . . reduces fire hazards.

Write today for catalog showing HYPRESSURE JENNY STEAM CLEANER'S many money-saving uses for you.

HYPRESSURE JENNY CLEANS

Machinery	Cranes	Conveyors
Engines	Transformers	Shafts
Compressors	Hoists	Tank Cars
Trucks	Floors	Walls
Windows	Buildings	Skylights, etc.

HYPRESSURE JENNY DIVISION OF
HOMESTEAD VALVE MFG. CO.
P. O. BOX 84 · · · · CORAOPOLIS · · · PENNSYLVANIA

▲ Mention Item NED-6093 when writing ▲

Get SELF-CONTAINED POWER FOR HYDRAULIC CIRCUITS

USE "LOGAN" HYDRAULIC POWER UNITS
• in your plant
• on your products

MODEL 8888

When hydraulic actuation is required on your product . . . or in your own processing plant . . . self-contained Logan Hydraulic Power Units will supply a continuous smooth flow of oil to provide an infinite power range from 0.32 to 47 gallons per minute, at working pressures to 1000 p.s.i.

Positive, uniform, controlled pressure is maintained by a high-pressure hydraulic pump driven by a standard electric motor. Pump, relief valve and piping are completely enclosed for protection. All parts are accessible without disturbing piping.

The unit is quickly and easily installed by making two simple pipe connections. Its compact design requires a minimum of space and harmonizes with modern machine styling.

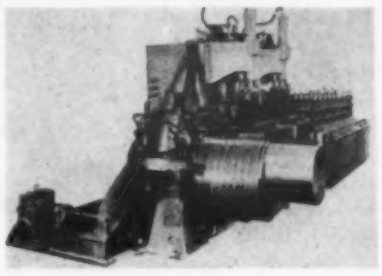
Typical uses:
• Movements of machine tables.
• Operation of indexing devices.
• Actuation of work-holding fixtures.
• Operation of small and medium size presses.
• Pushing, pulling, clamping, holding, pressing, lifting and other movements in any direction.

Logan SAVES ★TIME ★EFFORT ★MOTION
Air and Hydraulic Equipment
LOGANSPORT MACHINE CO., INC. 908 CENTER AVE. LOGANSPORT INDIANA
CHUCKS · CYLINDERS · VALVES · PRESSES · SURE-FLOW COOLANT PUMPS

FREE catalogs—Write for literature covering items in the Logan line in which you are interested.

▲ Mention Item NED-6094 when writing ▲

WHEEL FORMING MILL



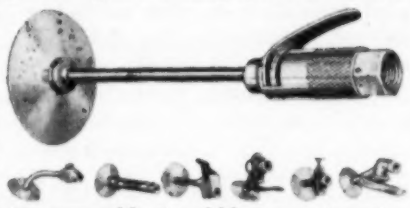
Continuous forming of wire wheel rims from coiled strip steel is effected by arrangement of cold roll-forming mill and coiling machine. Cold roll-forming machine forms rim section from steel strip, seam welder firmly welds edges and coiling machine winds formed stock on drum of proper diameter. When drum is filled, semi-automatic cutoff severs section without stopping production.

Coil is then removed to multiple cutoff machine which cross-cuts it, forming series of individual rings. Cut ends of rings are welded to form wheel rim. Accurate dimension control forms welded ring just slightly less than required finished diameter. After welding, rims are rounded, straightened and expanded or stretched on fifth machine to exact finished dimensions. Production rate is about 50 feet per minute. Made by Yoder Co., 5501 Walworth Ave., Cleveland 2, O.

▲ Mention Item NED-6095 when writing ▲

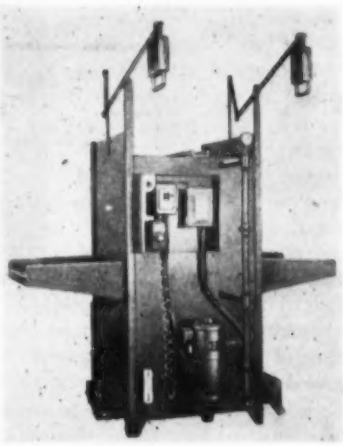
BLOW GUN SAFETY SHIELD

Fitted to any standard type of blow gun, this No. 150 transparent safety shield protects operator from flying chips or other particles created during cleaning and dusting operation. Shield is made of heavy gage transparent plastic. In addition to deflecting chips, it serves as bumper to protect gun from damage caused by rough handling. It is installed by unscrewing removable tip of blow gun, inserting tip through shield and screwing tip back into place. Special attachments can be furnished for blow guns without removable noses. Made by W. I. Martin & Co., 709 S. Dearborn St., Chicago 5, Ill.



▲ Mention Item NED-6096 when writing ▲

PARTS WASHING MACHINE



Designed to permit washing and rinsing in single installation, this single stage washer is self-contained and fully portable. It can be used at any location convenient to work, thus minimizing handling of parts or assemblies which are to be cleaned. It can be moved from one location to another as flow of work shifts from department to department. Unit is furnished with moving jets and easily operated vertical doors which control splash or spray. Any type of heating device, with or without thermostatic control, can be used. Made by Optimus Equipment Co., 221 Church St., Matawan, N. J.

▲ Mention Item NED-6097 when writing ▲

RIVNUT LICKS TOUGH FASTENING PROBLEMS

Simple, one-piece. Use as Blind Rivet, as Nut Plate . . . . or Both!

Unique among blind fasteners, B. F. Goodrich Rivnuts have outstanding advantages. You can fasten *with* them . . . you can fasten *to* them. Yet they're light, low-cost, simple to install . . . and ready for use as received!

Rivnuts are available in aluminum, brass . . . and now STEEL! Also a *splined* Rivnut for use in wood and plastics. Wide ranges of types, sizes, grips.

FREE! 40-page book, "Rivnut Data"

ALL THE FACTS at your fingertips. How to install, uses, strength figures, types, grip ranges, weights, tools. Write to The B. F. Goodrich Company, Dept. NED-10, Akron, Ohio.

▲ Mention Item NED-6098 when writing ▲

Facts ON SPECIAL CARBIDE-TIPPED TOOLS BY SUPER!

SPECIFY SUPER BECAUSE . .

When your cutting job requires special tools for cutting cast iron, steel or non-ferrous materials you'll want SPEEDY PRODUCTION, FINE FINISHES, PRECISION . . . REAL ECONOMY.

Super Tool engineers have the knowledge—the production experience, to analyze your needs and to produce the special tools necessary to give you the utmost in efficiency and economy.

Next time you need a special tool for a really tough job, specify Super. You'll get SUPER satisfaction.

SUPER TOOL COMPANY
27650 Hoover Road, Detroit 13, Michigan · ★ · 4105 San Fernando Road, Glendale 4, California

▲ Mention Item NED-6099 when writing ▲

Flexibility of Design

★ and compactness with ACRO ★ Switches

● Mechanism of the patented Acro Rolling Spring switch lends itself to adaptation in various shapes to fit the design of your units. Multiple mountings—flat or vertical—end to end, or side by side. Small case shapes—rectangular or curved. Various types of brackets for flexibility of mounting. Actuation pressure as low as two grams (using leaf bracket) or as high as 1¼ lbs. Surely one of the many ACRO Model "M" designs should fit your needs. Send your design details showing space dimensions and operating features for quicker reply.

ACRO ELECTRIC COMPANY
1312 SUPERIOR AVENUE • CLEVELAND 14, OHIO

▲ Mention Item NED-6100 when writing ▲

THE TYPE K THERMOSTAT FOR Air Liquid Hot plate APPLICATIONS

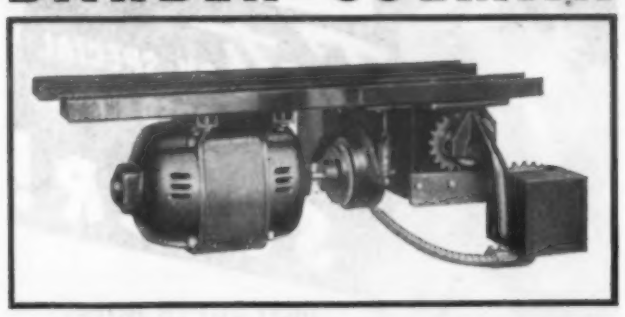
FROM —120 F TO +600 F

Within limits of —120°F to +600°F, the Type K Thermostat meets practically every air, liquid and hot plate application. These precision units have micrometer adjustment with calibration correction device and with equivalent centigrade readings. Short or wide ranges may be used with equal facility and accuracy. The bellows, bulb, and tube assemblies are solidly liquid-filled for positive, accurate control. The Type K is compensated for ambient temperature effect. Complete details on the 5 standard models will be found in Bulletin 441T—write for your copy.

United Electric Controls Company
71 A STREET, BOSTON 27, MASSACHUSETTS

▲ Mention Item NED-6101 when writing ▲

BARBER-COLMAN



DOOR OPERATORS

SAVE TIME and HEAT, HELP KEEP HEALTH

NOW is a good time to think about next winter. If you will install BARCOL Electric Door Operators, you can reduce time now wasted in opening, holding, and closing heavy doors, you can reduce heating expense by keeping unnecessary door-open time to a minimum, and you can help to maintain your employees' health by cutting down on needless drafts and blown-in dirt. *Get details from your Barcol Representative now.*

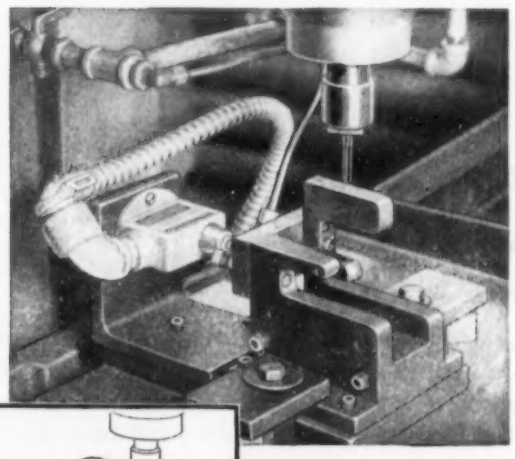
BARCOL

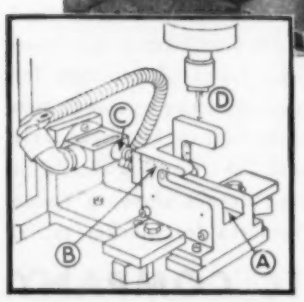
FACTORY-TRAINED SALES and SERVICE REPRESENTATIVES in PRINCIPAL CITIES

BARBER-COLMAN COMPANY
108 MILL ST. • ROCKFORD • ILLINOIS

▲ Mention Item NED-6104 when writing ▲

How MICRO SWITCH unit assures proper positioning for tapping operation





HOW IT WORKS

Part to be tapped is put into jig at "A". As it is moved back, it pushes rod "B" at back of jig, which in turn actuates the switch plunger "C". Then, when the starter button is pushed, tap "D" moves down and performs the tapping operation. Unless the part is pushed into the jig the proper distance, it does not operate the switch; thus improper tapping is prevented.

The Milwaukee Stamping Co. saves time, material, money, by preventing improper tapping

To make sure that a tapping machine will not start unless the work has been properly positioned in the jig, The Milwaukee Stamping Co. installed a Micro Switch die cast enclosed switch at the back of the jig. When the part to be tapped is pushed into the jig to the proper distance, it pushes a rod which in turn actuates the switch plunger, starting the tapping operation. If the part is not in the proper position, the machine will not start, thus preventing improperly tapped parts.

The dependable Micro Switch snap-action assures identical operation over millions of cycles. These small switches are ruggedly built to give far longer life than is found in most sensitive snap-action switches; yet they have a remarkably high degree of precision. They are available in plastic, die cast, steel, or cast iron housings, with many different types of actuators. They operate with as little as one ounce pressure, or .0003 inch plunger travel, and handle loads up to 1200 V.A., at 125 to 460 volts A.C.

Production engineers will find many jobs that can be done best by Micro Switch snap-action. Write for the free Handbook-Catalog No. 60 today.

Write for this Free Handbook-Catalog No. 60

Complete information on Micro Switch products; electrical characteristics, housings, actuators; suggested applications. Write Micro Switch Division, Freeport, Ill., U. S. A.

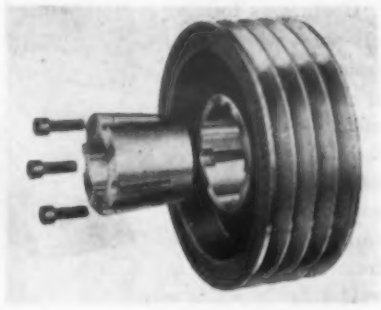
BUY MORE WAR BONDS TO FINISH THE JOB

© 1945 First Industrial Corporation

MICRO MS SWITCH
TRADE MARK
A DIVISION OF FIRST INDUSTRIAL CORPORATION
Freeport, Illinois, U.S.A., Sales Offices in Principal Cities

▲ Mention Item NED-6105 when writing ▲

V-BELT SHEAVE



Quickly mounted and demounted, Taper-lock V-belt sheave operates on wedging principle providing equivalent of shrink-fit on standard or normally undersize shafts.

Sheave is installed by slipping sheave and bushing assembly onto shaft and tightening two or three locking screws, depending on size of sheave. Screws are in threaded engagement with sheave hub and free in bushing groove. As screws are tightened they push against tapered bushing forcing it into tapered bored head. This causes bushing to contract and wedge between hub and shaft on which it is installed.

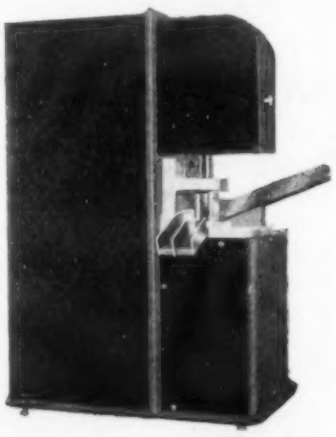
To remove sheave from shaft, locking screws are removed and one or two of them are inserted in jack screw holes which are partially in bushing and partially in hub. Portion of jack screw hole in bushing is threaded and that in hub portion is unthreaded. As screws are tightened, bushing is dewedged and sheave is free for removal from shaft.

Advantages claimed for this construction include mounting of minimum dimensions for accommodation of screws and connection with hub and bushing. It permits use of flangeless bushing and eliminates extension of either hub or bushing and need for collars or other protruding parts. Weight is thus reduced. Construction also makes possible provision of wide range of bores and permits application to all stock sheaves. Made by **Dodge Mfg. Corp.**, Mishawaka, Ind.

▲ Mention Item NED-6106 when writing ▲

ELECTRONIC GAGING MACHINE

Entirely automatic in operation, model 700 electronic inspection machine gages wide variety of small parts made of metal, plastic, ceramic, glass or paper. Machine measures depth of holes, external lengths and outside diameters to tolerances as small as 0.0001-inch. Depending upon size, shape and manner in which part can be handled, gaging speed is 3300 or more pieces per hour.



Mechanical contact is made at desired point in work by stylus rod to which razor-like flag is attached. Image of flag is projected into optical system by light. High order of magnification causes shadow of flag to be projected and reflected onto panel of two photoelectric tubes. Distance between tubes represents tolerance of dimension being gaged. This can be widened or narrowed by micrometer adjustment. Shadow of flag must lie between two tubes for part to be accepted automatically. One tube must be covered by shadow and other must be in light to activate acceptance mechanism. If dimension is above or below limit, piece is rejected. Made by **Autotron Co.**, 128 Clyde Ave., Danville, Ill.

▲ Mention Item NED-6107 when writing ▲

Marking 1600° F Ingots at Inland Steel

Inspection and Identification Marking on Armor Plates

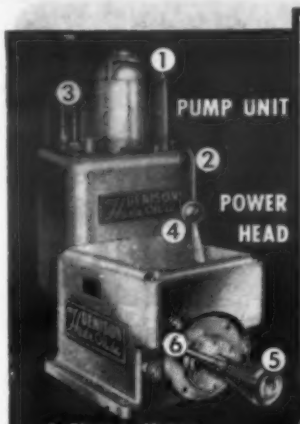
Use Handy, Clean MARKAL PAINTSTIKS

for every type of identification marking. Specific types for various purposes. Can be applied under blinding heat or under coldest conditions with equal ease. Marks are FADE-PROOF, WEATHER-PROOF and PERMANENTLY LEGIBLE. No messy pain bucket and brush.

Write for FREE SAMPLE—State Purpose

MARKAL CO. 621 N. Western Ave. Chicago 12, Ill.
"Originators of Paint Sticks"

▲ Mention Item NED-6108 when writing ▲



NOW YOU CAN HAVE Hydraulic Action FOR YOUR SPECIAL JOBS with these STANDARD UNITS

1. Electric Motor
2. Oil Reservoir
3. Pressure Regulator
4. Throttle-Action Control Lever
5. Precision Coupling Device
6. Stroke-Limiting Shipper Rod

• Here is *Standardized* Hydraulic Power! Two compact assemblies providing "packaged" hydraulic action for easy adaptation to your special machines!

The Pump Unit includes electric motor, hydraulic pump, oil reservoir, and pressure regulating valve. It can be located at any point. The Power Head incorporates fully-enclosed hydraulic cylinder, control valve, control lever, and the drive element (ram), and can be positioned at any angle to suit the job. Length of ram strokes can be regulated anywhere between ½-inch and 6 inches. Ram pressures may be limited anywhere between 300 pounds and 4 or 6 tons. The throttle-action power head is shown here; other types offer automatic control, the revolutionary new Vibratory Pressure, and other control combinations. Write!

The DENISON Engin. Co., 1151 Dublin Rd., Columbus 16, Ohio

DENISON EQUIPMENT for APPLIED HydroOILics

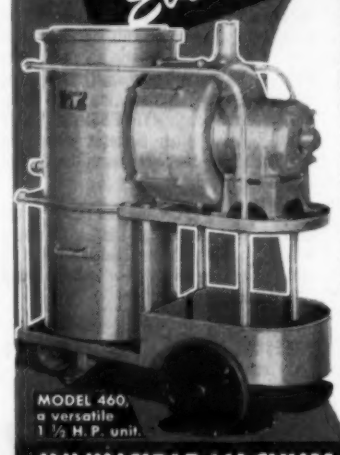
▲ Mention Item NED-6109 when writing ▲

CEILINGS RADIATORS MACHINERY FLOORS

INVINCIBLES

Remove Dust Everywhere FROM Everything

WALLS BEAMS BINS



MODEL 460, a versatile 1½ H.P. unit.

• Dust, dirt and litter, are quickly and easily removed with Invincible Vacuum Cleaners. Even hard-to-reach spots in the plant are readily cleaned with these portable machines and their handy attachment tools. Extremely rugged, Invincibles withstand *continuous* use month after month, and can be operated by unskilled labor.

In addition, Invincible machines are invaluable production tools for removing, reclaiming or conveying scores of industrial materials—they handle almost anything that will pass through a vacuum hose. *Write for free Bulletin.*

INVINCIBLE VACUUM CLEANER MFG. CO.
DOVER, OHIO

▲ Mention Item NED-6110 when writing ▲

CEMENT *now holds the grit onto* WELDISKS

CEMENT not glue, not resin, now holds grit on improved WELDISKS.

CLOTH protects fibre from cracked flabby edges for safety and longer life.

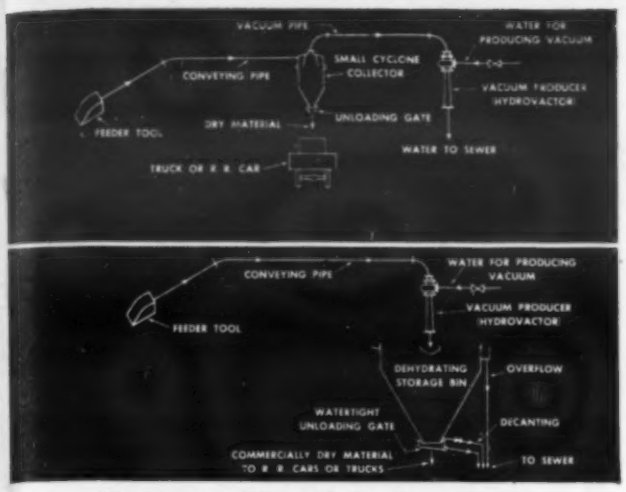
FIBRE plus double layers of cloth makes WELDISKS safe, durable.

GRIT is aluminum oxide: fastest and toughest abrasive in common use.

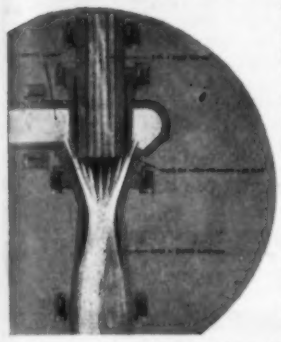
Send right now for FREE WORKING SAMPLES. Discover longer lived, faster cutting disks with the safety of electric furnace treated aluminum oxide grit *cemented* onto specially treated fibre and cloth laminated base. State disk size, grit number (320 to 16), kind of job and exactly how to address the shipment.

Abrasive Products, Inc.
SOUTH BRAINTREE 85, MASSACHUSETTS · MAKERS OF JEWEL COATED ABRASIVES

▲ Mention Item NED-6111 when writing ▲



Hydrovac Materials Handling
No Moving Parts—Minimum Maintenance



The basic system consists merely of a portable feeding tool, a pipeline (Ashcolite) and a Hydrovactor which produces vacuum by means of converging high velocity water jets. No moving parts. Material may be discharged direct or pumped to dump or fill, or it may be collected dry or wet, as pictured above. Water may be recirculated, if desired. Ashcolite Pipe outlasts steel and cast iron, thus saving time and maintenance expense. Portable Feeder Tool operates on Non-Clogging, Windswept Principle. Send for Bulletin 744. ***The Allen-Sherman-Hoff Co., 1429 Locust St., Phila. 2, Pa. Rep. in Most Principal Cities.***

▲ Mention Item NED-6112 when writing ▲

There are many reasons for all this talk about

FAIRBANKS-MORSE MOTORS

There are at least seven *good reasons. And you can check those reasons against any other motor on the market.*

1. **Protected Frame**—Dripping liquids and falling particles excluded in any mounting position.
2. **Symmetrical Design**—Reversible frame provides for locating conduit box on either side. Bearing arms can be mounted in any one of four positions 90° apart.
3. **Crossflow Ventilation**—Another exclusive feature in frames 224 to 365 inclusive. Air moves in both directions, providing a motor of uniform temperature. No hot spots.
4. **Recessed Conduit Box**—An innovation for neat installations. Choice of conventional box or frame recess with cover flush with frame.
5. **Balanced Characteristics**—Motor rated 40°C. with high efficiency and power factor and excellent starting and accelerating torques.
6. **Ball Bearings**—Sealed in and protected.

Plus THE EXCLUSIVE FAIRBANKS-MORSE *Copperspun* ROTOR
Centrifugally cast of copper—and in one piece

Write for information, Fairbanks, Morse & Co., Fairbanks-Morse Building, Chicago 5, Illinois.

BUY MORE VICTORY BONDS

Fairbanks-Morse
A name worth remembering

Diesel Locomotives • Diesel Engines • Generators
Motors • Pumps • Scales • Magnetos • Stokers
Railroad Motor Cars and Standpipes • Farm Equipment

▲ Mention Item NED-6113 when writing ▲

BATCH WEIGHING SYSTEM

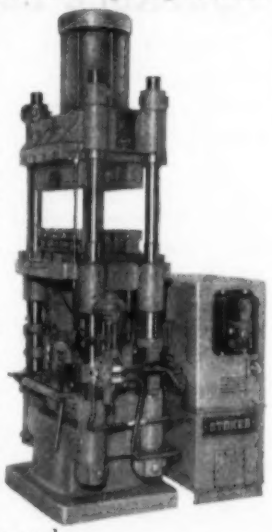
In automatic weighing and proportioning in glass, concrete, cosmetics and other industries, scales can be electrically interlocked and controlled through use of this central panel. Cycle is initiated by turning switch and operator can watch progress of complete operation by observing signal lights on panel.

System can be used to control single critical ingredient or completely control several. Provision can be made for rapid or dribble control and material can be fed onto conveyor belts or into gathering cars. System can be installed under variety of operating conditions since scale levers can support weigh hoppers, weigh tanks or other load containers which may be used. Printed records of weights of all ingredients can be provided by using Printweigh attachments with this equipment. System eliminates possibility of feeding too much or too little of an ingredient or danger of omitting it. Made by **Toledo Scale Co.**, Telegraph Rd., Toledo 12, O.

▲ Mention Item NED-6114 when writing ▲

TRANSFER MOLDING PRESS

Adapted for either compression or transfer molding, this Standard combination press has capacity of 150 tons. Transfer cylinder pressure is 30 tons, with maximum opening between platens of 26 inches. Platen area measures 26 x 23 inches. Press is driven by 5-horsepower motor.



By using single pumping unit for applying pressure in compression molding and to lock mold shut and supply hydraulic pressure to transfer ram, this dual-purpose press is available at cost only slightly higher than that of similar size compression press.

Transfer cylinder is mounted on head and operation of ram is controlled by sequence valve. Power unit has ample capacity to provide high mold closing speed and high ram speed to operate efficiently with induction or electronically heated preforms in transfer molding. For compression molding, transfer cylinder is cut out by closing valve.

Several methods of loading are available. In one, loading space is provided in upper bolster. Mold having been closed, either preform or powder is loaded into this space and pressure is applied automatically through transfer plunger after operator trips safety control lever. Plunger moves rapidly in the clear and builds up pressure at lower speed as resistance develops.

Second loading method is performed directly on lower die plate, with press open. Preform is spotted in center of die and push of start button initiates cycle. Made by **F. J. Stokes Machine Co.**, 5964 Tabor Rd., Olney P. O., Philadelphia 20, Pa.

▲ Mention Item NED-6115 when writing ▲

64% TAPE COST SAVED on GAS TANK DOORS

Because Bauer & Black Cloth Industrial Tape costs less than most industrial tapes and has greater tensile strength than many others, a 1¼-inch Bauer & Black tape now protects gas tank doors in a large Detroit industrial plant, where formerly 2 strips of 1-inch paper tape with overlap were used. Result—64% savings in material costs alone. Altogether, Bauer & Black conservation methods were applied to 8 tape operations in this plant with savings of 25% to 73%.

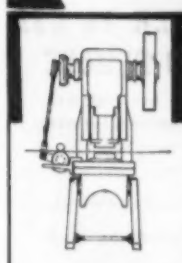
You, too, may save tape and labor costs and increase efficiency with the *right* tape. Write Dept. 410 and tell us when our trained sales engineers may call. Also ask to be placed on our mailing list for the monthly Bauer & Black AUTOMOTIVE NEWS LETTER. No obligation of any kind.

BAUER & BLACK
Industrial Tape
PRESSURE SENSITIVE ADHESIVE

A product of
BAUER & BLACK
Division of The Kendall Company
2500 SOUTH DEARBORN STREET, CHICAGO 16, ILLINOIS

▲ Mention Item NED-6116 when writing ▲

LITTELL STRAIGHTENING MACHINE



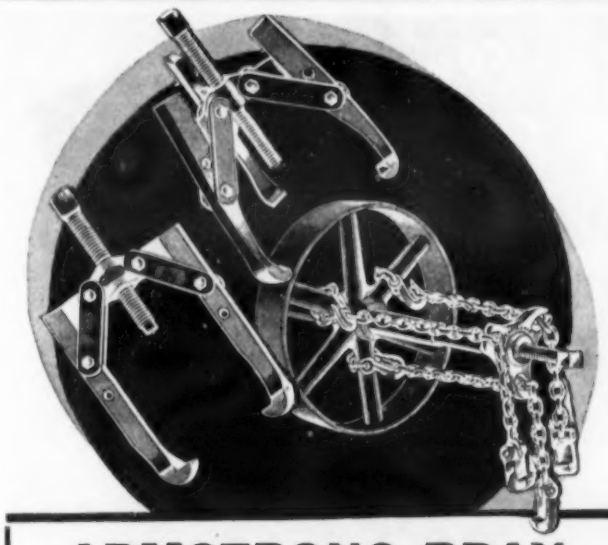
for Straightening and Feeding **COIL STOCK**

SUPPLIED in medium and heavy-duty types for operation with Littell Coil Cradles or Automatic Centering Reels. Feeds coil stock to automatic punch presses. Handles strip material in various widths and thicknesses, speeds and feed lengths, to suit production needs. Variable-speed drive. Electric control arm for starting and stopping motor.

Littell also makes: Roll and Dial Feeds, Straighteners, Reels, Coil Cradles, Scrap Winders, Safety Feeders and Pickers, and Air-Blast Valves. REQUEST BULLETINS

F. J. LITTELL MACHINE CO.
4161 RAVENSWOOD AVE., CHICAGO 13, ILL.

▲ Mention Item NED-6117 when writing ▲



ARMSTRONG-BRAY
GEAR AND WHEEL PULLERS
PROMPT SHIPMENT ESSENTIAL TOOLS

Save hours of time, prevent costly breakage and long shut downs. STEELGRIP Standard Rigid Arm Gear and Wheel Pullers are of improved design. Will not slip from work. Arms are forged and heat-treated. 2-arm, 3-arm and special designs. 34 types and sizes. CHAINGRIP Universal Pullers pull wheels, solid gears, pinions, etc., even at considerable distance from end of shaft. Proof-tested chains have both chain hooks and special pulley hooks. 3-ton and 12-ton capacities.

WRITE FOR CATALOG SHEETS

ARMSTRONG-BRAY & CO.
"The Belt Lacing People"
5362 Northwest Highway Chicago 30, U. S. A.

▲ Mention Item NED-6118 when writing ▲

50 EWC Trailers

. . . NOW IN USE BY SERVEL, INC. EVANSVILLE, IND.

The Servel company, along with hundreds of other leading industrial firms, realize the urgent need of safe, dependable, speedy equipment for handling materials. That's why they have specified EWC TRAILERS—50 of them—to move incoming raw materials and outgoing products.

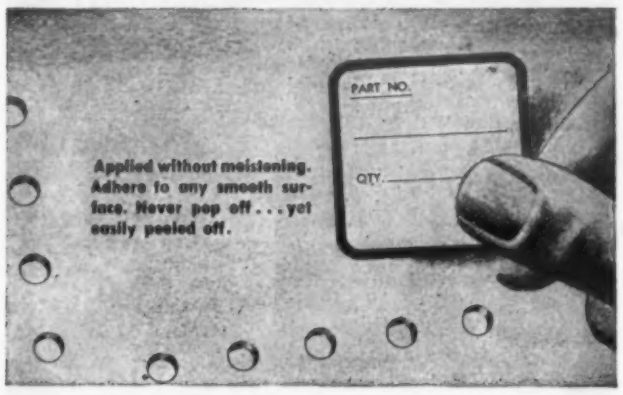
You, too, will find much satisfaction in using EWC TRAILERS—engineered to meet your specific needs.

Write today for detailed Bulletins.

EWC TRAILERS
Electric Wheel Co., Dept. 40, Quincy, Ill.

▲ Mention Item NED-6119 when writing ▲

NEW REMOVABLE STICKERS



FAIRCHILD FINDS THEM FASTER TO USE ...QUICK TO APPLY...EASY TO REMOVE

Kum-Kleen stickers, with the magic adhesive backing, are applied without moistening, adhere to any smooth surface including metal, glass, plastic, and wood...never fall off... yet are easily peeled off when ther job is done.

Try them as Inspection, Rejection, and Identification stickers.

Write today for samples and the booklet explaining their wide use in war industries.

Write Dept. NED-10

AVERY
Kum-Kleen
PRODUCTION STICKERS

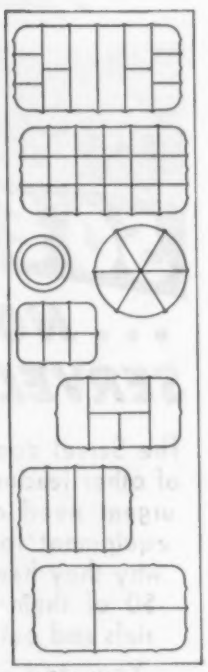
AVERY ADHESIVES:
451 East 3rd St., Los Angeles 13
New York, Boston, Detroit, Pittsburgh, Chicago, Kansas City, Mo. In Canada. Enterprise Sales, Toronto.

▲ Mention Item NED-6120 when writing ▲

IN

Pyra-Shell
Reg. U.S. Pat. Off.

TRANSPARENT UTILITY BOXES



Wouldn't you like to keep valuable small tools and parts safe from dirt and dust, yet always in plain sight so you don't have to hunt for them?

You can — if you keep them in Pyra-Shell *Transparent* Utility Boxes. These handy boxes are made of crystal-clear plastic. They are light in weight, easy to handle — yet of a patented construction that makes them tough and durable.

You will no doubt find one of the many compartment arrangements available in our standard ribbed boxes suitable for your needs. If not, we will be glad to consider a special box.

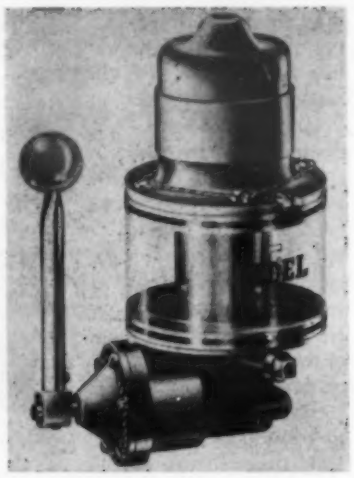
Write today for folder showing Pyra-Shell Box styles and sizes.

Address: Utility Box Dept. D

SHOE FORM CO. INC.
AUBURN, N. Y.

▲ Mention Item NED-6121 when writing ▲

HYDRAULIC POWER UNIT



Developed to provide compact lightweight source of power for actuation of landing gear and wing flaps in light airplanes, No. 14372 hydraulic power package is suited to other applications requiring independent or self-contained hydraulic system. It can be mounted forward of instrument panel in aircraft or in any small space without interference with other controls.

Unit comprises electric gear type fluid pump, visual reservoir, adjustable pressure relief valve, thermal relief valve, cylinder bypass valve and four-way selector valve connected to manual control. Overall size is 4 inches in diameter and 9-3/16 inches high. Weight filled is 4.875 pounds; empty it is 4.50 pounds. Pump delivers fluid under pressure of 300 pounds per square inch at rate of 0.40 gallons per minute. Power requirement is 298 watts at 12 volts. Units with higher capacity are also available.

Operation is controlled by handle. Battery circuit switch can be arranged so as to operate independently or so circuit will be opened and closed automatically when handle is moved. Made by **Adel Precision Products Corp.**, 10777 Van Owen, Burbank, Calif.

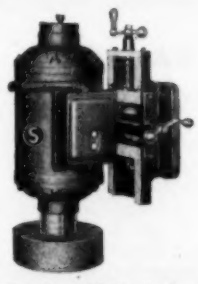
▲ Mention Item NED-6122 when writing ▲

PORTABLE BEAM SCALE

Improved in appearance, model 54 portable beam scale has capacity of 1000 pounds. Graduations are die cast on lower edge of beam and they are extremely legible against dark red background. Possibility of error is further minimized by center-indicating poise with nonremovable set screw. Both beam and poise are of corrosion-resistant alloy. Ends of wheel axles are enclosed to eliminate possibility of tearing clothes or bags.

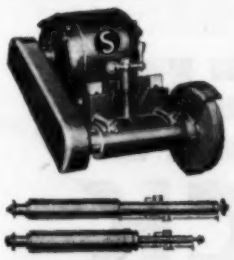
Ball bearings between platform and pivot bearings absorb brunt of platform movements to sustain accuracy of pivot knife edges over long period of service. One-piece cast platform has long skirt to keep dirt out of scale mechanism. Scale is available with either single beam graduated to 100 pounds in increments of ½-pound or full capacity beam graduated to 100 pounds in ½-pound increments on upper bar and 100 to 1000 pounds on lower bar. Drop lever, pillar guard and balance indicator can be furnished. Made by **Howe Scale Co.**, 1030 Scale Ave., Rutland, Vt.

▲ Mention Item NED-6123 when writing ▲



Grinder with Vertical and Horizontal feeds. Available with or without feeds as preferred. Integral mounting pad for rigidity.

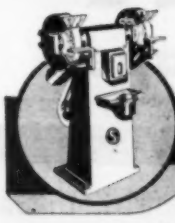
"YES SIR—STANDARD VERTICAL SPINDLE GRINDERS GIVE US 'DOUBLE PURPOSE' MACHINES"



YES SIR! You can now make your machine a "double purpose" machine, the "Standard Way". STANDARD VERTICAL SPINDLE GRINDERS and STANDARD INTERNAL-EXTERNAL GRINDERS can be easily mounted on your Planers, Boring Mills, Shapers, Milling Machines, etc., giving you added profits!

Vertical Spindle Grinders range from ½ H.P. to 15 H.P. for straight or cup wheels up to 16" diameter. Also for cylinder wheels, or segmental wheel chucks. Speeds: 1200, 1800, and 3600 R.P.M. Internal-External Grinders have interchangeable quill for internal grinding up to 24" deep.

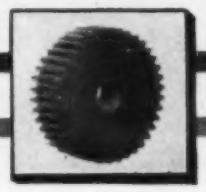
Write for YOUR copy of Catalog 43, today.



The STANDARD ELECTRICAL TOOL Co.
CINCINNATI · 4 · OHIO

▲ Mention Item NED-6124 when writing ▲

G-E TEXTOLITE FOR GEARS

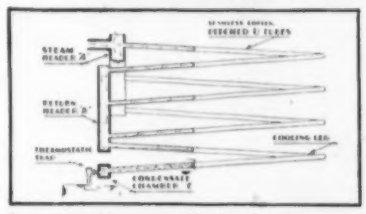


The success of G-E Textolite gears is due to two properties: 1. Resiliency and 2. Resistance to wear. Their resiliency is responsible for their silence as it absorbs the effects of inaccuracies unavoidable in commercial gear cutting. Resistance to wear results in long life and low operating cost. G-E Textolite gear material is available in sheets 36" x 44" of almost any desired thickness, and in rough and finished blanks. For a copy of our bulletin entitled "Silent Gears," write Section N-46, One Plastics Avenue, Pittsfield, Mass.

GENERAL ELECTRIC
FD-46A

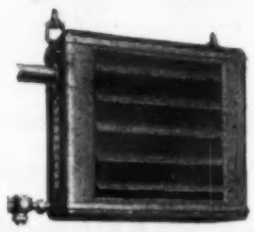
▲ Mention Item NED-6125 when writing ▲

Thermolier's INTERNAL COOLING LEG



gives *continuous* drainage of condensate.

The exclusive Thermolier Internal Cooling Leg insures *all* the heater working *all* the time and permits the use of a simple, inexpensive thermostatic trap. The Internal Cooling Leg has a cooling effect of 100 feet of usual external cooling leg piping. Other superior Thermolier features:



- Built-in Expansion Provisions
- Tube-to-header construction
- Superior Heating Element
- Tube Design Minimizes Dirt Collection
- Continuous Rated Capacity
- Simple Piping Connections

Write for Thermolier Catalog No. 6-E. Grinnell Co., Inc. Executive Offices, Providence 1, R. I. . . . Branch Offices in principal cities.

GRINNELL
THERMOLIER UNIT HEATERS

▲ Mention Item NED-6126 when writing ▲

You Can Polish Quickly WITH ALUNDUM ABRASIVE

You'll like the fast cutting action of wheels set up with Alundum Abrasive and the finish that they give.

This ability of Alundum Abrasive to give high production is due to the chemical and physical characteristics that are built in when the abrasive is produced in the electric furnace and to the treatments that the abrasive receives as it is crushed, screened and prepared for use.

Let a Norton abrasive engineer study your polishing jobs.

NORTON COMPANY
Worcester 6, Mass.

G-1638

NORTON ABRASIVES

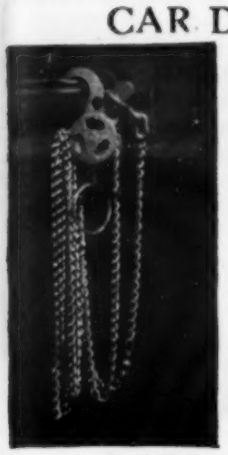
▲ Mention Item NED-6127 when writing ▲

BOOBY TRAP

resulting in thousands of accidents yearly

Eliminate this costly hazard with the

MONARCH ONE MAN CAR DOOR OPENER



One man can open the most binding, balky box car door with the Monarch Car Door Opener. Get greater safety... speed loading and unloading schedules . . . order an ample supply to fill your needs today! Price $17.50 each.

PRIORITY NEEDED

MINING SAFETY DEVICE CO.

Dept. NED, Bowerston, Ohio

▲ Mention Item NED-6128 when writing ▲

DOES THE TRICK!

Tasgon loosens rusty pipe joints, frozen nuts, painted bolts, corroded fittings in a flash! Its fast action is due to Tasgon's unique principle of colloidal penetration. That makes it tops on tough jobs! Tasgon's also great for cleaning tools, valves, machines. Cuts through gummed-up dirt, rust, grit like a knife through butter.

TRY TASGON TODAY

Get it at your mill supply house or send 10c for sample can.

Samuel Cabot, Inc.

1421 Oliver Bldg. Boston 9, Mass.

▲ Mention Item NED-6129 when writing ▲

NORTON ABRASIVES

Horse Sense *in the* New Tool-up

Save both time and money, *right now,* by changing over your grinding and finishing on set-up wheels to the very latest practice—METALITE CLOTH BELTS with IDLER BACKSTANDS.

It's easy to install an IDLER BACKSTAND behind your present lathe, slip an abrasive belt over the resilient contact wheel to connect the two, and instantly get:

- Greater output
- Faster, cooler cut
- Better finish
- Lower cost

Send for our new 8-page folder, "Plus Factors": you'll be well repaid.

BEHR-MANNING · TROY, N. Y.

(DIVISION OF NORTON COMPANY)

Quality Coated Abrasives Since 1872

▲ Mention Item NED-6130 when writing ▲

STEEL WORK BENCH

Constructed of 12-gage steel, work bench has all four flanges formed into boxed edge for rigidity. Second steel plate can be tack welded onto top for vise reinforcement. Bench is suitable for supporting light machine tools. Four feet have holes to permit fastening to floor. Bench can be furnished either 42 inches or 6 feet long, 34 inches high and 28 inches deep. Illustrated model has steel top with bottom tray, back and side railings, drawers with padlock attachment, adjustable three-compartment tray for drawer and vise reinforcement. Made by **Equipto Div.**, Aurora Equipment Co., Aurora, Ill.

▲ Mention Item NED-6131 when writing ▲

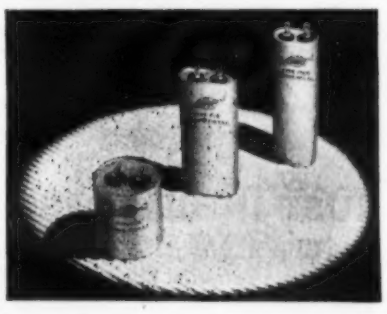
CUTTING TOOLS

Closely ground to fit common holders, Blue Nose line of tools includes tool bits, cut-off blades, form tools and other cutting tools. They are adaptable to tool room work and perform well on mild steel, alloys and tool steel. With Rockwell hardness of 63 to 65, tools are not brittle and work well on some heat treated materials and die blocks. They are not recommended for scaley forgings or castings.

Tools are available in squares, flats and cut-off blades in wide ranges of sizes. Squares range from 3/16 x 3/16 x 2½ inches to 1¼ x 1¼ x 7 inches. Flats vary from ½ x 5/8 x 5 inches to 1¼ x 1½ x 8 inches and cut-off blades from 3/32 x ½ x 4½ inches to 3/8 x 1 x 6 inches. Special sizes can be furnished. Made by **Tru-Cut Tool Co.**, 14232 Birwood, Detroit, Mich.

▲ Mention Item NED-6132 when writing ▲

LIGHTING CAPACITORS



Providing power factor correction for fluorescent lighting circuits, line of oil-impregnated, oil-filled capacitors includes features claimed to be suited to this type service. Capacitors are contained in hermetically sealed metal cases and they will withstand operating temperatures ranging from —67 to 185 degrees Fahr. Oil-tight terminals are insulated with phenolic bushings and have tinned copper soldering lugs. Available sizes include capacitances from 2.0 to 5.25 microfarads and working voltages from 165 to 440 volts alternating current.

Adjustable clamp brackets, separable mounting straps and permanently attached mounting brackets can be furnished to meet installation requirements. Made by **Tobe Deutschmann Corp.**, Capacitor Div., 846-D Washington St., Canton, Mass.

▲ Mention Item NED-6133 when writing ▲

ANNOUNCING

New, Improved

IDEAL Electric MARKER

This brand new, streamlined marker is full of improvements that make permanent marking on all materials easier and faster than before—lighter weight and better balanced. Marking stroke adjustable to suit various materials and conditions. More rugged, sturdy construction, built to last. Permanently marks all metals, tools, parts, dies, etc.

Manufacturers of Most Complete Line of Markers and Etchers

PROMPT DELIVERY

IDEAL *Sycamore*

Industrial Products Division 1177

IDEAL COMMUTATOR DRESSER CO.

1032 Park Ave. Sycamore, Ill.

Sales offices in all principal cities.

In Canada: Irving Smith Ltd., Montreal, Quebec

▲ Mention Item NED-6134 when writing ▲

Check **PITCH DIAMETER** *Rapidly*

The Ball Point Accessory for use with Sheffield Visual Gages checks pitch diameter of threaded parts as accurately as the three wire method BUT MANY TIMES FASTER.

Accessory includes chromed bracket and adjustable backstop assembly to fit on Visual Gage anvil and three pairs of interchangeable ball points equivalent to best wire sizes for 36, 20 and 12 threads per inch. Set-up is made with threaded masters. Maximum capacity one inch nominal size.

Write for new Visual Gage Folder showing other accessories to speed up accurate inspection.

THE SHEFFIELD CORPORATION

Dayton 1, Ohio, U.S.A.

SHEFFIELD MASTER CRAFTSMEN

MACHINE TOOLS · GAGES · MEASURING INSTRUMENTS · CONTRACT SERVICES

▲ Mention Item NED-6135 when writing ▲

One day's work **.. IN DoALL'S MODERN RESEARCH LABORATORY**

Visit this amazing department and you'll find a dozen different tests going on—some take half an hour, others weeks — to discover the kind of saw and proper speed that will do the best cutting job on anything you have to cut.

MAGNESIA & SUPEREX BLOCKS
3024 sq. in. per min.
3-pitch DoALL Buttress

HOT ROLLED STEEL ⅛" thick
40 lin. ft. per min.
14-pitch DoALL Precision

BRASS TUBING ½" o.d.
600 cuts per min.
24-pitch DoALL Precision

MONEL METAL 3/16" thick
132 lin. in. per min.
10-pitch DoALL Precision

BRONZE CASTINGS
18.3 sq. in. per min.
6-pitch DoALL Precision

ALUMINUM CASTINGS
120 sq. in. per min.
3-pitch DoALL Buttress

MELAMINE RESIN INSULATION 1" thick
26.4 lin. in. per min.
14-pitch DoALL Precision

WELDING RODS 3/32" diam.
900 rods per min.
10-pitch DoALL Precision

STAINLESS STEEL .031 thick
80 lin. ft. per min.
24-pitch DoALL Precision

BRASSALLOYCASTINGS
22.6 sq. in. per min.
3-pitch DoALL Buttress

MALLEABLE CASTINGS
48 sq. in. per min.
10-pitch DoALL Precision

FINKL STEEL DIE BLOCK 15" thick
1.18 sq. in. per min.
3-pitch DoALL Buttress

FREE TO YOU

Consider this as your own Test Laboratory. Take advantage of knowledge gained by saw testing thousands of jobs. Send us sample of your hard-to-cut material. We'll get busy and give you, without obligation, written report of our findings.

DoALL Precision and DoALL Buttress Saw Bands come in 100-ft. coils or cut to length to fit any band saw.

Write for Literature or Telephone your DoALL Sales and Service Store

The DoALL Company Des Plaines Illinois

Baltimore, Birmingham, Boston, Buffalo, Chicago, Cincinnati, Cleveland, Dallas, Dayton, Denver, Detroit, El Paso, Grand Rapids, Hartford, Houston, Indianapolis, Kansas City, Los Angeles, Milwaukee, Minneapolis, New York, Orlando, Philadelphia, Pittsburgh, Providence, Reading, Rochester, Rockford, St. Louis, St. Paul, Salt Lake City, San Francisco, Seattle, Statesville, Syracuse, Toledo, Toronto, Tulsa, Vancouver

▲ Mention Item NED-6136 when writing ▲

...ALDRICH *Inverted* VERTICAL TRIPLEX HIGH PRESSURE PUMP *for*...

- Pipe Line Service
- Hydraulic Presses
- Plastic Moulding
- Repressuring
- Die Casting

Fluid end located at top of pump frame. Totally enclosed with provision for outside packing and proper lubrication under all operating conditions. Crankshaft extends through crankcase for direct coupling at floor level to gear motor or speed reducer. For pressures to 8350 p. s. i. and capacities to 200 g. p. m. Ask for Data Sheet 66.

THE ALDRICH PUMP COMPANY
4 GORDON STREET • ALLENTOWN • PENNA.

▲ Mention Item NED-6140 when writing ▲

Now! an IMPROVED

KENNAMETAL LATHE FILE

- *CUTS STEEL NO ORDINARY FILE CAN TOUCH*
- *PERMITS FILING SPEEDS 3 TO 10 TIMES THOSE POSSIBLE WITH STEEL FILES!*
- *OUTLASTS MILL CUT FILES 50 TO 200 TIMES*

This new Kennametal Lathe File retains all the time-and cost-saving characteristics of previous designs—*cuts steel up to 62 Rockwell C hardness; does outstanding job on cast iron and non-ferrous materials; permits filing operations at carbide tool turning speeds; produces superior finish.*

And now, in addition, it provides these new features—*longer filing surface; quick, easy blade replacement; greater handling convenience.*

The filing surface comprises two 4" long Kennametal blanks which have cylindrical nuts brazed to them, and are attached to the aluminum alloy handle by screws. After long service (up to 200 times that obtained from steel files) the blanks can be readily replaced.

The handle grip has a thumb rest and knuckle guard. An extension of the handle beyond the filing surface provides a secure finger hold. A hole in this extension permits the file to be hung up.

Features

REPLACEABLE BLANKS

Kennametal blanks are attached by Phillips head screws. Two types are available: fine (30 teeth per inch); and coarse (20 teeth per inch).

LIGHT WEIGHT

Weighs less than one pound. Can be handled with ease, and used for long periods of time with minimum expenditure of energy

HAND-FITTING GRIP

Handle is comfortable—it fits the hand; provides secure grip. Opposite end of file provides convenient finger hold.

*On the first production run, a Kennametal Lathe File usually saves its cost many times over. Order one—let it demonstrate to you an astonishingly low filing cost-per-piece.

KENNAMETAL
SUPERIOR CEMENTED CARBIDES
KENNAMETAL Inc. LATROBE, PA.

SPECIFICATIONS AND PRICES

COMPLETE FILE		FILE BLANK—2 REQUIRED		
CAT No.	PRICE EACH	CAT No.	TEETH/INCH	PRICE EACH
F-45*	$18.50	F-453 F-452	30 20	$7.50 7.50

* Furnished with blanks having 30 teeth/inch unless otherwise specified.

▲ Mention Item NED-6141 when writing ▲

NEW *Processes* AND *Materials*

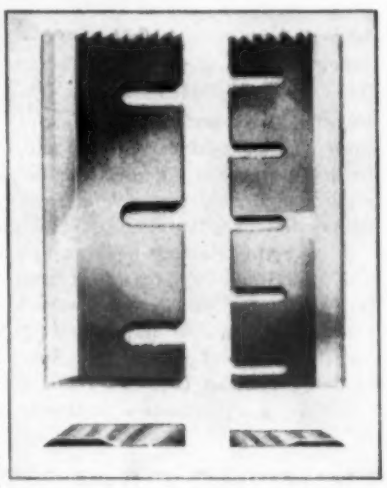
CELLULAR GLASS INSULATION

Improvement of Foamglas cellular glass insulating material includes increase in number of cells per cubic foot from 5,000,000 to 10,000,000. Conductivity, or K value, has also been reduced. At 50 degrees Fahr. it is now 0.40 British thermal units per hour per square foot per degree Fahr. per inch. Conductivity at 300 degrees Fahr. is 0.55. This is a decrease of 0.05 at 50 degrees and 0.15 at 300 degrees.

Foamglas is inorganic cellular insulation adaptable for use in industrial buildings and equipment. Product is fireproof, waterproof and verminproof and it does not deteriorate from common elements. Its color is brown. Made by **Pittsburgh Corning Corp.**, 632 Duquesne Way, Pittsburgh 22, Pa.

▲ Mention Item NED-6142 when writing ▲

COMPOSITE TOOL STEEL



Applicable for use in chipper knives, planer knives, paper knives and blades for cutting light sheet metal, type R composite tool steel combines hardness and edge holding properties of high speed steel with shock resistance of low alloy steel. Flat bar stock is formed by diffusion welding high speed steel to backing steel of low alloy content. Tool steel portion of bar stock extends from edge of one flat surface to within ¼-inch of centerline and consists of approximately 40 per cent of total gage. Slots and holes in back of knives can be machined easily through low alloy portion to center of bar. Stock is available in standard sizes in even inches from 2 to 10. Made by **Jessop Steel Co.**, 555 Green St., Washington, Pa.

▲ Mention Item NED-6143 when writing ▲

RUST INHIBITORS

Metal parts and materials placed in inside storage are protected from corrosion by Carbo C and Carbo N rust inhibitors. These materials also prevent rust in lines that drain salt solutions from crude oil storage tanks and from bottoms of tanks where water and brine solutions are used. Mixed with cutting oils, they protect threads from rust.

Type C inhibitor is inactive on all metals and alloys, including magnesium and aluminum. Type N has no effect on iron, steel or ferrous alloys but does have slight action on softer metals. Both inhibitors are furnished in concentrated form to which water is added for application. Made by **Carbozite Corp.**, 956 First National Bank Bldg., Pittsburgh 22, Pa.

▲ Mention Item NED-6144 when writing ▲

TODAY'S HEAVIER DRILL STRINGS HANDLE DEPENDABLY ON TORRINGTON ROLLER BEARINGS

It's no military secret that the "pressure's on" in the oil fields . . . that drills are biting deeper and deeper in search of war-needed oil. That means heavier loads on crown blocks and other machinery ... loads hey handle smoothly *and dependably* when they are equipped with Torrington Roller Bearings.

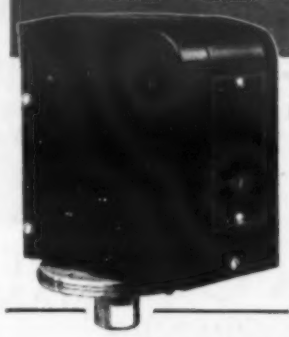
Do you want your machinery to give you long, trouble-free, *dependable* performance? The engineers of Torrington's Bantam Bearings Division will gladly cooperate with yours to incorporate those and other Torrington advantages into the equipment you design, build or operate.

The Torrington Company • Bantam Bearings Division
South Bend 21, Ind.

TORRINGTON BEARINGS
Straight Roller • Tapered Roller • Needle • Ball

▲ Mention Item NED-6145 when writing ▲

for AIR COMPRESSORS *and* WATER PUMPS



Class 9013A PRESSURE SWITCH

225 lbs. pressure limit
10 to 45 lbs. differential

- A standard controller for motor-driven air compressors and water pumps. Heavy contacts, with silver permanently bonded to the heavy bronze backing. Generous electrical ratings. Four ⅞ inch knockouts for ½ inch conduit are provided for convenient wiring.

Modern black enameled steel cover. Corrosion-resisting inner parts. High-grade impregnated fabric diaphragm. Oil-resisting type also available.

Write for Catalog—illustrations, specifications of Square D pressure switches and related devices. Address Square D Regulator Division, 6060 Rivard Street, Detroit 11, Michigan.

SQUARE D COMPANY
DETROIT • MILWAUKEE • LOS ANGELES

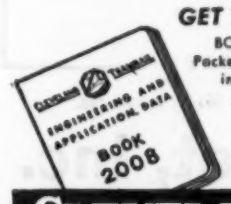
▲ Mention Item NED-6146 when writing ▲

LONG SPAN BUT *EASY* RUNNING

48'-0" Double-Track Hand-Propelled Cranes

"Believe it or not," whether pulled at either end or any point between, long span hand-propelled Cleveland Tramrail cranes are easy running. Skewing and binding are eliminated by patented flexible runway suspension. The inexpensive cranes above operate on a double-rail runway and are a big factor in stepping up production and lowering costs.

GET THIS BOOK!
BOOK No. 2008
Packed with valuable information...



CLEVELAND TRAMRAIL DIVISION
THE CLEVELAND CRANE & ENGINEERING CO.
1143 East 283rd St., Wickliffe, O.

CLEVELAND TRAMRAIL

▲ Mention Item NED-6147 when writing ▲

For CLAMPING PARTS *of* Varying *Thicknesses*

Don't waste time making manual adjustments; thickness variations up to ¼-inch are taken care of automatically when your clamp is fitted with a

Pressure-Matic Assembly

By means of a heavy compression die spring, the hold-down spindle automatically adjusts itself to the thickness of work or part being held, maintaining positive pressure. Assembly is welded to work bar. Types for medium and heavy duty De-Sta-Co Clamps.

Described in De-Sta-Co Clamp Catalog No. 45. Send for a Copy.

DETROIT STAMPING CO.
Established Over 30 Years
360 Midland Ave • Detroit 3, Mich.

▲ Mention Item NED-6148 when writing ▲

1/3 Less Grinding Time on WELD SEAMS

That's the record of Atlantic's Type AK Grinding Wheels doing a job on weld seams of Military Tanks. These new-type wheels—engineered to be safe and cool at higher grinding speeds—used as recommended by Atlantic engineers—have given many such results. Investigate this amazing performance—write today for the technical aid of an Atlantic engineer. Atlantic Abrasive Corp., 525 Pearl Street, South Braintree, Massachusetts.

Atlantic RESINOID BONDED GRINDING WHEELS

▲ Mention Item NED-6149 when writing ▲

D.O.James Established 1888

POWER SAVING PRODUCTS

Continuous-Tooth Herringbone Gear Speed Reducers

Type "H" Worm Gear Speed Reducers

Planetary Gear Speed Reducers

Motorized Planetary Gear Speed Reducers

We have been making various types of cut gears and gear speed reducers for many years . . . Our extensive present day facilities for their manufacture are the outcome of developing an organization that would capably handle our resultant expansion . . . These facilities give us a capacity that readily handles industry's power-saving requirements.

Our experience of over 58 years of manufacturing various types of gears and gear reducers is invaluable in the selection of the proper type of gear speed reducer for your power-saving transmission problems.

ARMY E NAVY

D.O.Jameses Gear Sales-Engineers are located in key industrial centers.

D.O.JAMES MANUFACTURING CO.
1140 WEST MONROE STREET • CHICAGO, ILL.

MAKERS OF EVERY TYPE OF GEAR AND GEAR REDUCER

▲ Mention Item NED-6150 when writing ▲

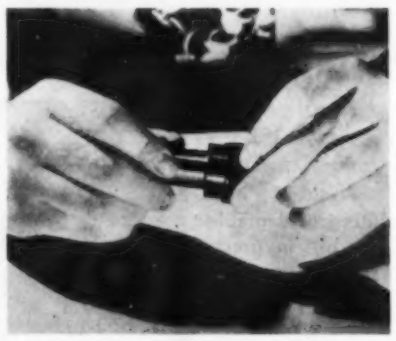
New Processes & Materials

BLACK PLASTIC DYE

Producing permanent black ebony shade in 15 minutes setting time, Krieger-O-Dip black plastic dye is available in four major types. S-chemical dye is designed for use on Lucite and Plexiglas; A is for cellulose acetate, Tenite, cellulose nitrate and Vinylite; P-type for polystyrene plastics and special W-type hot water dye for use on almost any form of plastic. Made by **Krieger Color & Chemical Co.**, Dept. E, 6531 Santa Monica Blvd., Hollywood 38, Calif.

▲ Mention Item NED-6151 when writing ▲

GAGE PROTECTION



Gaging surfaces of plug, thread and special gages are protected by application of Jan - Seal plastic coating. Material is applied by dipping and it is easily removed and replaced after use. Necessity of coating gage with grease is thus eliminated. In addition to affording protection against rust and corrosion, coating serves as guard against damage from dropping or being struck. Made by **Jansson Gage Co.**, 19208 Glendale Ave., Detroit 23, Mich.

▲ Mention Item NED-6152 when writing ▲

NYLON HOSIERY YARN

Manufacture of nylon yarn for ladies' hosiery and for other textiles has been resumed and lighter peacetime deniers can be furnished. Commercial prices range from $2.75 per pound for 30 denier yarn on bobbins to $1.60 per pound for 210 denier, 34 filament yarn. It is stated that amount of nylon yarn offered for hosiery will be much greater than before the war. Initial shipments of 30, 40 and 70 denier semi-dull nylon hosiery yarns were made about Sept. 1 and they will be offered to other branches of textile industry shortly thereafter. Made by **E. I. du Pont de Nemours & Co.**, Wilmington 98, Del.

▲ Mention Item NED-6153 when writing ▲

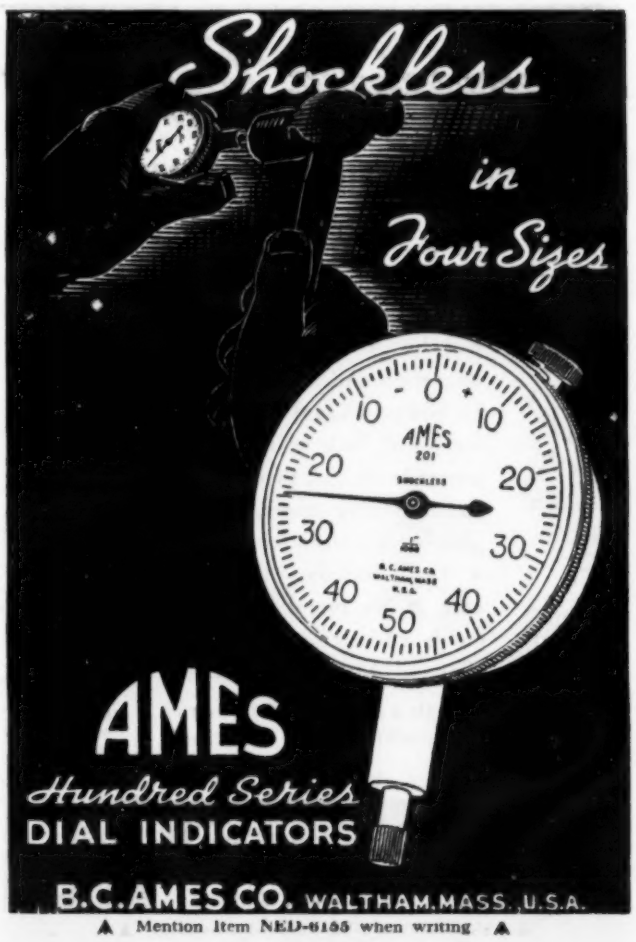
SAFETY FLOOR COVERING

Applied to metal, concrete or wood surfaces with trowel or spray gun, Ferrox floor covering is slipproof and withstands heavy foot traffic. It is composed of abrasive and synthetic resin and was developed originally for safety deck covering on naval craft.

Consistency is about equal to that of fluid paste. It is applied 1/32-inch thick, with coverage of 50 square feet per gallon. It can be walked on in 4 to 6 hours. If two coats are required, second coat can be applied two hours after first coat. It withstands weathering and resists oil. Abrasive surface provides sure grip for leather shoes or rubber boots. Standard colors are Navy blue, red, black and gray. Covering is supplied in 1 and 5-gallon containers. Made by **American Abrasive Metals Co.**, Irvington, N. J.

▲ Mention Item NED-6154 when writing ▲

Shockless in Four Sizes

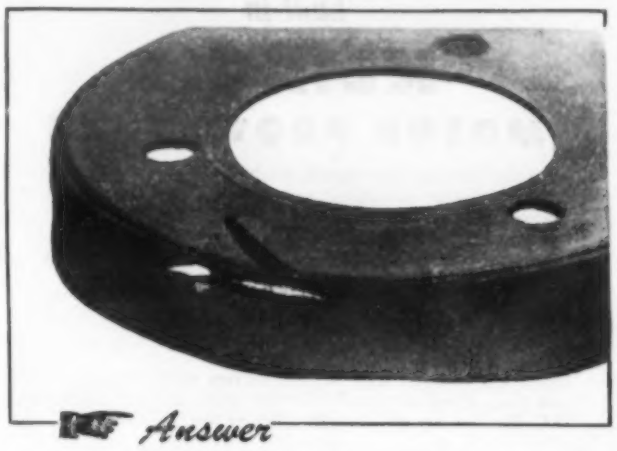


AMES Hundred Series DIAL INDICATORS

B.C.AMES CO. WALTHAM, MASS. U.S.A.

▲ Mention Item NED-6155 when writing ▲

WHY DID THE PACKING FAIL?



Answer

The shoulder extruded due to excessive clearance between piston head or backing plate and cylinder.

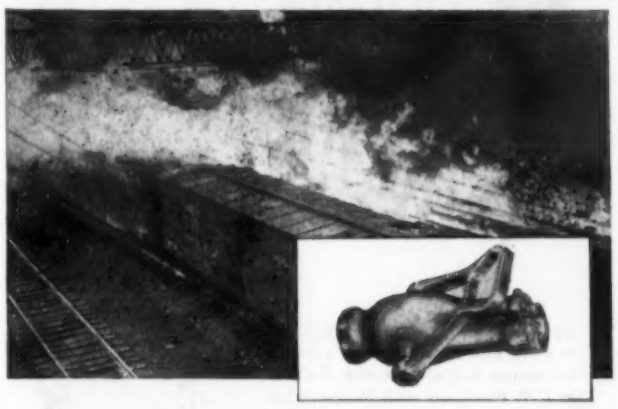
How to cure this condition — which is responsible for many packing failures — is among the many problems discussed in "Packings Pointers", a 24-page folder on design and application of leather packings. It is free. Address Graton & Knight Company, 325 Franklin Street, Worcester, Mass.

GRATON AND KNIGHT

Graton & Knight Engineered Packings
leather and synthetic rubber packings

▲ Mention Item NED-6156 when writing ▲

WaterFOG Nozzle Fights Oil Fires



When a derailed tank car started a furious fire on the New Haven Railroad, Rockwood WaterFOG nozzles helped check the blaze in 15 minutes . . . confine it in 25 . . . extinguish it in 40.

For Regular Fire Hose Lines

Rockwood's SG-40 nozzle discharges WaterFOG (water finer than spray with high heat absorptive property) or—by moving a handle—a solid stream. With extension applicator attached, it discharges ball-shaped WaterFOG pattern, shielding operator. 1" nozzle takes 6' applicator; 1½" nozzle takes 4' and 10' applicators; 2½" nozzle takes 12' applicator. Write for Bulletin 123.

ROCKWOOD SPRINKLER COMPANY
44 Harlow St., Worcester 5, Mass.

Specialists in Fire Protection Engineering, Equipment and Installation Since 1907

▲ Mention Item NED-6157 when writing ▲

Building Maintenance NEEDS GOOD TOOLS

Buildings have taken a beating in the hurry-up demands of wartime. In many plants, the jobs lined up for maintenance crews extend onward right into reconversion projects. One of the surest ways of keeping pace with this work is to put good tools in the hands of every maintenance man – the keen, efficient, durable tools made by Stanley. Check over your stock of planes, chisels, bit braces, hammers, ripping bars and other maintenance specials – then specify Stanley when you order. Stanley Tools, 104 Elm Street, New Britain, Connecticut.

STANLEY
THE TOOL BOX OF THE WORLD

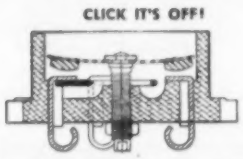
▲ Mention Item NED-6158 when writing ▲

Reduced Expense Accounts for Motors with built-in

KLIXON
MOTOR PROTECTORS

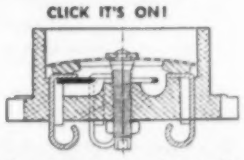
Electric motors equipped with built-in Klixon Protectors . . . are trouble-free motors. Why, because Klixon Protectors prevent motors from becoming overheated and burning out. Low in cost, they pay for themselves by practically eliminating motor repairs and replacements and minimizing production delays.
Because they are built into the motor by the motor manufacturer, Klixon Protectors are matched exactly to the motor assuring a proven and tested combination of motor with adequate protection.
Insist on built-in Klixon Protectors with every motor you buy. They are available for A.C. motors all sizes; D.C. motors up to 30 volts. Write for Bulletin PR-112.

CLICK IT'S OFF!



Should a motor become overheated and dangerously hot, the Klixon Protector snaps the power "off" preventing the motor from burning out.

CLICK IT'S ON!



When the motor cools to safety, the Klixon Protector snaps the power "on" automatically if the automatic reset is specified . . *or when the reset button is pushed when manual type is specified.*

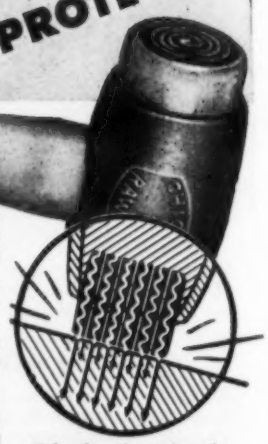
KLIXON

SPENCER THERMOSTAT COMPANY, ATTLEBORO, MASSACHUSETTS

▲ Mention Item NED-6159 when writing ▲

BY "molecular absorption"

Rawhide PROTECTS



By momentarily storing the force of a blow and "slowing the pulley" the coiled and compressed rawhide in C/R Hammers and Mallets (1st) takes the shattering crash out of powerful blows . . . prevents breaking, disfiguring or marring of products, machines and fine finishes. (2nd) eliminates recoil—ends the fatiguing bounce common to most mallets.

With a C/R Hammer you can use a lighter tool, still strike harder and more effectively; can accomplish more with less fatigue; because striking force is mono-directional with more carry through.

Molecular absorption (the storing of force conveyed through the tough interwoven, resilient hide fibres) converts velocity into effective thrust.

WRITE FOR CATALOG SHEETS

C/R CHICAGO Rawhide MFG. CO.
1287 ELSTON AVE. ★ CHICAGO 22, ILLINOIS

▲ Mention Item NED-6160 when writing ▲

The COMMERCIAL SHEARING AND STAMPING COMPANY
YOUNGSTOWN 1, OHIO

Requirements for circular stampings can be satisfied in many cases by using "COMMERCIAL" Standard Shapes—as listed in "SHAPE BOOK" No. 6 . . . Write for a Copy

▲ Mention Item NED-6161 when writing ▲

New Processes & Materials

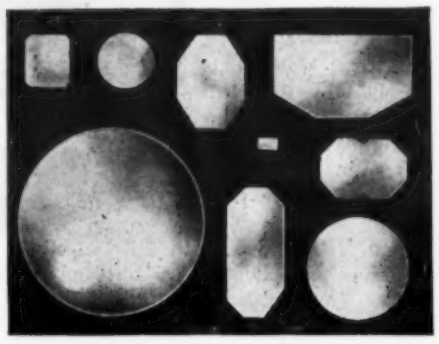
PROTECTIVE COATING

Offering convenient and economical means of obtaining corrosion-resistant coatings on cadmium and zinc, Unichrome Dip process converts surface into chemically inert compound. Either black or olive drab finishes can be produced which prevent formation of white corrosion products and also act as excellent base for paint or lacquer.

Parts require single immersion in liquid for from 2 to 5 minutes. Coating is claimed to offer high degree of protection and to prevent appearance of white corrosion products under standard salt spray test for periods up to 200 hours. Made by **United Chromium, Inc.**, 51 E. 42nd St., New York 17, N. Y.

▲ Mention Item NED-6162 when writing ▲

MIRRORS & REFLECTORS



Produced to specifications, front or rear surface mirrors are adaptable for use in precision instruments, electronic equipment and other scientific apparatus. Reflecting surface is developed through use of thermal evaporation of metals under vacuum. For exceptionally high reflectivity, aluminum alloy can be used. Mirrors can be supplied also with gold, silver and other metal surfaces. Close optical and dimensional tolerances can be met. Any size, shape, thickness or curvature can be produced.

Mirrors have permanent reflectivity characteristics, will not tarnish, are free from pin holes and can be cleaned without damaging the surface. Reflectivity curve from aluminum alloy mirrors is virtually straight line for all rays from infra-red to ultra-violet. Made by **Zenith Optical Laboratory**, 123 W. 64th St., New York 23, N. Y.

▲ Mention Item NED-6163 when writing ▲

FREE-MACHINING TOOL STEEL

From 25 to more than 200 per cent faster machining is possible with free-machining Dunkirk EZ tool steel. Described as being "outside the usual tool steel specifications", it is adaptable to cold work applications and for tool steel machined parts such as dies, gages, forming rolls, bushings, liners and bodies for multiple edge tipped tools.

It will harden to about 65 Rockwell C when oil quenched from 1450 to 1550 degrees Fahr.; can be tempered up to 500 degrees Fahr. without softening under 60 Rockwell C; is rather deep hardening; undergoes only slight dimensional change in heat treatment; and possesses high impact and transverse rupture strength. It is also said to have unusual resistance to wear and abrasion.

For specialized application as brake dies, it can be supplied in form of bars, blocks, rings, dies, etc. in normalized condition at 250-275 Brinell, at which hardness good machinability is obtainable. Made by **Allegheny Ludlum Steel Corp.**, Brackenridge, Pa.

▲ Mention tem NED-6164 when writing ▲

Immediate Delivery FROM STOCK

GREAVES-SILENT BAKELITE GEARS

No waiting when you order Greaves Silent Bakelite Gears. • We have them in stock NOW! • Your order will go forward immediately. • You'll appreciate the silent operation and added smoothness provided by Greaves Silent Bakelite Gears. • You'll marvel at their great strength to carry big power loads . . . their remarkable ability to successfully operate completely submerged in water. • You'll welcome their low cost. • No metal reinforcements required. • Save Time . . . Money . . . Labor!

We also make silent gears of rawhide and Fabriol.

Write for Circular.

FOR CONCERNS CUTTING THEIR OWN GEARS, WE CAN MAKE IMMEDIATE DELIVERY ON BLANKS SAWED TO SPECIFIED DIAMETER AND FACE

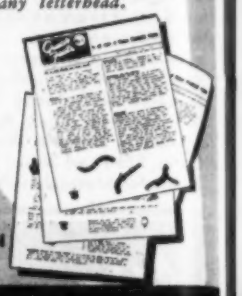
THE Greaves MACHINE TOOL CO.
2009-19 EASTERN AVENUE
CINCINNATI, OHIO

▲ Mention Item NED-6165 when writing ▲

Here's EASIER FABRICATION of Stainless Tubing!

To get the most from the stainless tubing you use, to reduce fabricating costs, take advantage of Carpenter's experience. The first step is to get your bound copy of these useful "Quick Facts" bulletins. Along with fabricating information, these bulletins contain useful hints to help your engineers make the most of the advantages of Carpenter Welded Stainless Tubing.

For your "Quick Facts" bulletins, just send a request on your company letterhead.



BENDING • EXPANDING
MACHINING • WELDING • JOINING
LUBRICATION • DESIGN INFORMATION

THE CARPENTER STEEL COMPANY
Welded Alloy Tube Division . . . Kenilworth, N. J.

▲ Mention Item NED-6166 when writing ▲

WHY SPEED NUTS ARE FIRST WITH *Purchasing Agents*

NOTHING LOCKS LIKE A SPEED NUT

Only SPEED NUTS provide a COMPENSATING thread lock and a SELF-ENERGIZING spring lock. As the screw is tightened the two arched prongs move inward to lock against the root of the screw thread. These free-acting prongs COMPENSATE for tolerance variations. Compression of the arch in prongs and base creates a SELF-ENERGIZING spring lock. These two forces combine to definitely prevent vibration loosening.

LOWER COSTS . . . reduced inventories . . . fewer handling problems . . . availability of Speed Nuts.

Their initial cost, in many cases, is less than ordinary fasteners. Savings in assembly time and reduction in number of parts makes net assembly costs really take a tumble.

SPEED NUTS keep inventories down. Completely do away with washers. Often eliminate many other assembly parts. This means quick inventory turnover.

Unlimited production and service facilities assures getting SPEED NUTS on their way to you . . . on time. SPEED NUTS should be YOUR first choice, too. Write for information today.

TINNERMAN PRODUCTS, INC., 2044 Fulton Road, Cleveland 13, Ohio

Speed Nuts

FASTEST THING IN FASTENINGS . . . OVER 3000 SHAPES AND SIZES

▲ Mention Item NED-6167 when writing ▲

MIGHTY but Gentle!

IT'S A HARD HITTING "SOFTIE"—Nupla Hammer uses a new semi-soft, flexile plastic that HEALS ITSELF when dented or deformed. Hits hard blows without damage to delicate parts or finishes. Non-inflammable! Not affected by oil or gasoline! *A new tool* every craftsman wants and needs. 3 sizes and 7 wts.

SOLD AT HARDWARE STORES EVERYWHERE.
Write for name of local dealer.

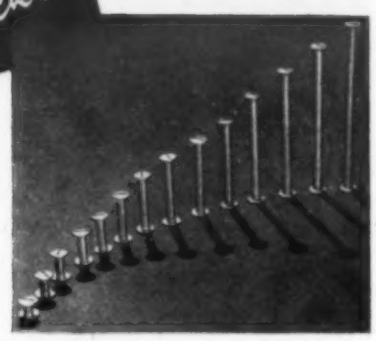
NEW PLASTIC CORP. 1017 N. Sycamore Ave. Los Angeles 38, Calif.

MIGHTY but Gentle NUPLA PLASTIC HAMMERS

▲ Mention Item NED-6168 when writing ▲

Aluminum Screw Posts Are Back!

for LOOSE-LEAF BINDERS, CATALOGS, etc.



ALCOA Aluminum (24 S.T.) SCREW POSTS

ARE BACK AGAIN! The only strong, durable, *permanent* binding for loose-leaf material. Sizes: ¼" up to 4" lengths to fit ¼" hole. WRITE for quotations. STATE sizes and quantities.

GRIFFIN, CAMPBELL, HAYES, WALSH, INC.
40 EAST 21st STREET, NEW YORK 10, N. Y. DEPARTMENT "D" 17-19 EAST HUBBARD STREET, CHICAGO 11, ILL.

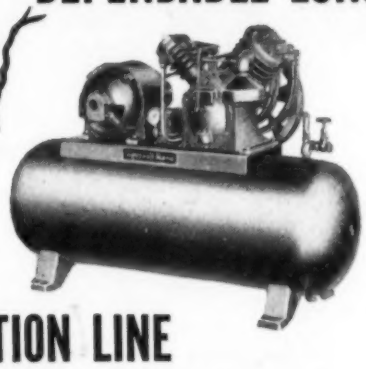
New England Distributors

MARSHALL SON & WHEELOCK, INC.
83 LINCOLN STREET, BOSTON 11, MASS.

SERVING THE NEW ENGLAND TRADE FOR 89 YEARS

▲ Mention Item NED-6169 when writing ▲

DEPENDABLE LUNGS



for YOUR PRODUCTION LINE

Air necessary for life in the human body is supplied by the lungs . . . a fact too often taken for granted.

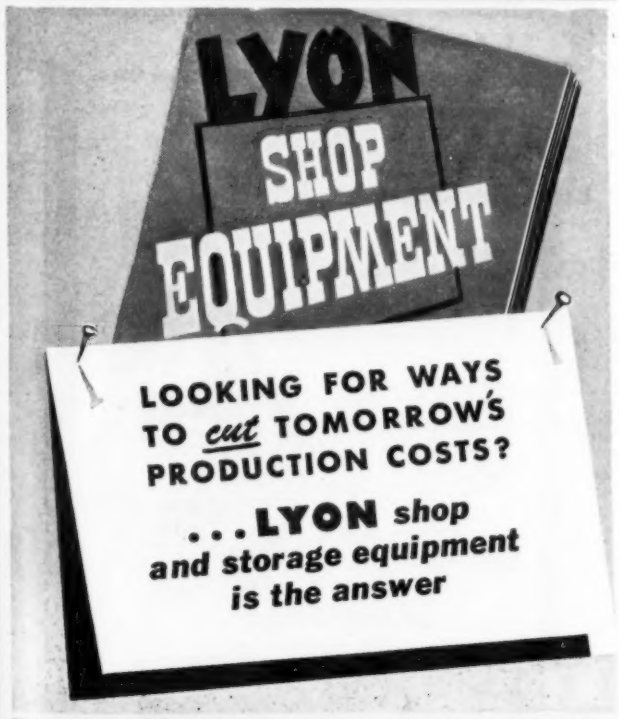
Compressors are the man-made lungs which supply the air necessary to your production lines . . . this, too, is often taken for granted.

Your industry needs the best air compressor to keep your production humming. The answer is Ingersoll-Rand Type 30 Compressors . . . small units for big jobs . . . available in various sizes from ½ to 10 hp delivering 5 to 3500 pounds pressure.

Ask your industrial distributor or the nearest I-R branch office for further details.

Ingersoll-Rand
11 BROADWAY, NEW YORK 4, N. Y. 3-690

▲ Mention Item NED-6170 when writing ▲



LYON METAL PRODUCTS, INCORPORATED

General Offices: 1022 *Monroe Ave., Aurora, Ill*
Branches and Dealers in All Principal Cities

WHAT ABOUT POST-WAR? Do your post-war products include sheet metal or aluminum? Check Lyon's manufacturing and designing facilities.

▲ Mention Item NED-6171 when writing ▲

New Processes & Materials

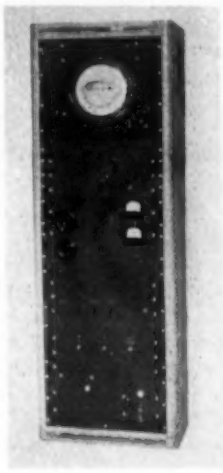
INSULATING VARNISH

Because of low curing temperature of 300 F, DC 996 silicone varnish can be used in all types of electrical shops. Claimed advantages over standard insulating varnishes include greater protection against failure caused by sustained overloads; increased service life of electrical insulation; higher permissible operating and ambient temperatures; increased protection against excessive moisture even after prolonged exposure to elevated temperatures; minimizing of fire hazards and increased power output per unit of weight.

Electrical equipment wound with silicone insulating materials and sealed by impregnating with DC 996 will have high thermal stability and will retain waterproof characteristics. Electrical equipment can be baked fully assembled without damaging commutators or slip rings. Temperature required to cure silicone varnish does not affect shellac-bonded mica or core plating. Made by **Dow Corning Corp.**, P. O. Box 592, Midland, Mich.

▲ Mention Item NED-6172 when writing ▲

RADAR APPARATUS



Capable of "seeing" through darkness, fog, rain and snow for varied distances, Radameters are expected to become standard equipment on most merchant vessels. Developed for use on Navy ships, these electronic devices will eliminate hazard of collision in open sea or in crowded harbors regardless of weather or atmospheric conditions.

Fully automatic in operation, Radameters function by beaming short wave radio impulses away from ship. Impulse bounces back as "echo" when it strikes any obstruction in water. Since radio waves travel at 186,000 miles per second and thousands of impulses are sent out every second, timing devices must measure time in microseconds.

Glowing blue-green rings and "pips" of light on circular dial show distance and compass bearing of all objects on water around ship. Moving objects trace path across face of dial. Center of dial represents location of ship on which unit is installed and operator can see how fast the distance closes between his vessel and other objects.

Commercial model, except for antenna, is mounted in single cabinet about the size and shape of average four-drawer letter file. Made by **Submarine Signal Co.**, 160 State St., Boston 9, Mass.

▲ Mention Item NED-6173 when writing ▲

RUST REMOVER

Applied by brush, spray or immersion method, Formula 314 rust remover readily dissolves rust of all types on iron and steel and removes verdigris from copper and brass. Remover leaves on metal microscopically thin coating of chemical that inhibits further oxidation. Inhibiting coat forms good base for paint or lacquer. Made by **I. S. E. Co.**, 4031 Goodwin Ave., Los Angeles, Calif.

▲ Mention Item NED-6174 when writing ▲

SPEED UP ELECTRICAL MAINTENANCE

WITH THE AMP Solderless ELECTRICAL REPAIR KIT

Wherever wires are terminated, in any and all of your electrical equipment, the AMP ELECTRICAL REPAIR KIT means SAFE and simple installation and maintenance in less time with less labor.

PERFECT REPAIRS WITHOUT SOLDER OR HEAT

AMP solderless wiring eliminates failures from solder solidifying or corroding wire or from solder tiring or breaking. Every installed AMP Terminal affords a safe, trouble-free connection. No skill is required to operate the AMP pressure-type hand tool — it works like a plier — and the finished installation can be visually inspected.

EVERYTHING FOR THE COMPLETE REPAIR JOB

The AMP Kit all-purpose tool is the only tool required. Hardened tool steel with insulated handles — it cuts and strips the wire and crimps it to the terminal.

100 AMP Terminals — an assortment of tongue shapes and wire sizes from 22 to 10. All copper, high conductivity — the same types used on military aircraft. Extra terminals available in handy packages.

Easy instructions included — the AMP SOLDERLESS REPAIR KIT is only $5.95 complete. Order sample kit from

Completed Connection

AMP Terminals and Tool approved by Underwriters Laboratories, Inc. for stranded wires 22 to 10, incl.

AIRCRAFT-MARINE PRODUCTS INC.
1521-47 NORTH FOURTH STREET, HARRISBURG, PENNA.

In Canada:
DAVID C. ORROCK, 1405 Bishop St., Montreal, Quebec
F. N. ADAMS, 726 Homer St., Vancouver, British Columbia
F. MANLEY CO., 43 Victoria Street, Toronto 1, Ontario

▲ Mention Item NED-6175 when writing ▲

National Vulcanized Fibre

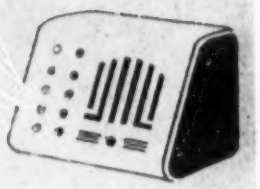
Makes Products and Equipment Last Longer

● On *your* products or plant equipment—as on these textile shuttles — tough, resilient National Vulcanized Fibre gives longer performance and increased efficiency . . . at greater economy to you. Light in weight, it is easily machined and formed, has high dielectric and mechanical strength, and is extremely resistant to wear and abrasion. Write for full information.

NATIONAL VULCANIZED FIBRE CO.
WILMINGTON DELAWARE

▲ Mention Item NED-6176 when writing ▲

see for yourself!



free demonstration of

Executone INTER-COM SYSTEM in your own plant or office!

If you've ever thought of installing an inter-com system, here's your chance to see how one works—right in your own place of business!

At your invitation, we'll be glad to have one of our factory-trained representatives visit your plant or office and put on an actual demonstration of EXECUTONE—*without the slightest obligation to you!*

See for yourself how this modern system of inter-communication hurdles the barriers of distance and brings every member of your organization within easy reach of your voice. See how EXECUTONE enables you to issue instructions, ask questions and get an immediate response—without lifting a receiver, twirling a dial or taking a man away from his work. You merely press a button—*and talk!*

See for yourself how EXECUTONE frees your switchboard of the burden of "inside" calls . . . how it quickens the pace and pulse of your whole organization . . . enables everybody to get *more* work done!

A simple "*See for Yourself*" demonstration of EXECUTONE won't take more than ten minutes. Now — while it's on your mind . . .

Mail the Coupon Below!

EXECUTONE, INC., Dept. K-12 · 415 Lexington Ave.
New York 17, N. Y.
Without obligation, I'd like to take a look at Executone.
Name_____
Firm_____
Address_____ City_____

BUY MORE WAR BONDS

▲ Mention Item NED-6177 when writing ▲

Only PANNIER SUPREME STAMPING HOLDERS HAVE all THESE ADVANTAGES

REPLACEABLE HEAD

SHAPE DISTRIBUTES BLOW

ONE SOLID PIECE

HARDENED ANVIL

NO PINS OR SPRINGS

HAMMER TYPE STYLE L SUPREME HOLDER (PATENTED)

Exclusive, patented, alloy steel ANVIL prevents wear, assures constant type alignment. Replaceable Striking Head eliminates mushrooming and spalling problems; adds greatly to holder life. Many other features help to reduce stamping costs. Tell us material to be stamped, conditions, size and number of characters in a line. Our engineers will recommend the kind of holder best suited to your specific needs. Many sizes, types and styles available.

Steel Type, Stamps, Dies; Embossing Equipment, Metal Tags, Checks, Badges, Stencils; Rubber Dies, Stamps

MASTER PANNIER MARKING

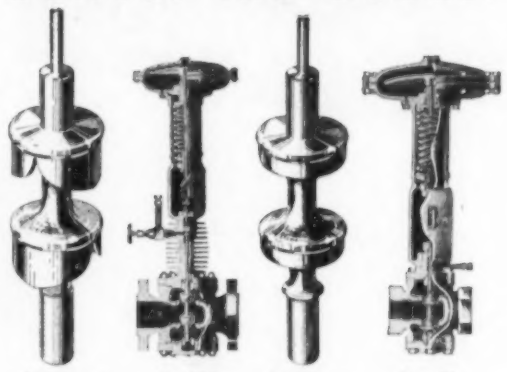
PANNIER BROS. STAMP CO.

301 PANNIER BLDG., N. S., PITTSBURGH, PA.

▲ Mention Item NED-6178 when writing ▲

MASONEILAN CONTROL VALVES

Deliver the Goods!



Percentage "V-Port" Plug — No. 37B — Percentage "Parabolic" Plug — No. 38

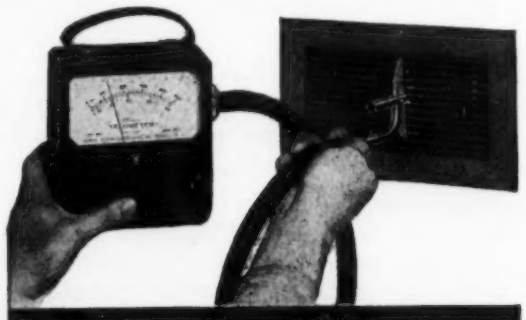
Widely used and recommended in the process and Petrochemical industries, Masoneilan Control Valves meet the exacting requirements of controls for pressure, temperature, level and flow. These valves are available with Percentage "V-Port", Percentage "Parabolic" and Percentage Piston Plugs. Percentage "V-Port" plugs are available in sizes 1 inch and up; Percentage "Parabolic" in 1 inch to 4 inches; and Percentage Piston plugs for ½ inch and 1 inch. Write for information.

MASON-NEILAN REGULATOR CO.

1205 Adams St., Boston 24, Mass.

MASONEILAN

▲ Mention Item NED-6179 when writing ▲



Alnor VELOMETER

the direct reading air velocity meter

Air speed in feet per minute is read directly and instantly on the scale of the Alnor Velometer. Anyone can use this simple instrument—there are no calculations, no leveling, no timing, and no conversion tables. This convenient instrument allows quick checking of draft, leaks, velocities at air conditioning outlets, and any other air movement. Quick, accurate air velocity measurements give a valuable check on efficiency of equipment.

The Velometer is made in several standard ranges from 20 fpm to 6000 fpm, and up to 3 inches total pressure. Special ranges available as low as 10 fpm and up to 25000 fpm velocity and 20 inches pressure. Write for bulletin with complete data.

ILLINOIS TESTING LABORATORIES, INC.

420 NORTH LA SALLE STREET

CHICAGO 10, ILLINOIS

▲ Mention Item NED-6180 when writing ▲

New Processes & Materials

MAINTENANCE PAINT

Suitable for use in plating plants and for other high humidity applications, Pen-Kote 500 general purpose maintenance paint quickly forms hard semigloss finish. Since it is high in solids content, one coat gives ordinary protection and two coats are sufficient under severe conditions.

Surfaces can be hot or cold and need not be dry or completely clean. On plating tanks, ductwork and similar equipment, corroded surfaces can be painted after being roughly wire brushed and rinsed with water.

Paint is resistant to acids and alkalies and is highly adhesive. Surfaces can be recoated without peeling or blistering and previous coatings of asphalt or other paint will not work through. Standard color is gray and other colors are available on application. Made by **Peninsular Chemical Products Co.**, 6795 E. Nine Mile Rd., Van Dyke, Mich.

▲ Mention Item NED-6181 when writing ▲

THERMOSETTING RESIN

Nonflammable thermosetting Kriston plastic has high optical and electrical properties and good resistance to oils, greases and most chemicals. It is formed by polymerizing liquid monomer in presence of suitable catalyst. Low temperatures and no pressure are required.

Monomer is somewhat viscous, water clear, anhydrous liquid having specific gravity of 1.25. It can be cast in simple molds and sets to hard heat-resistant plastic. No water or other volatile products are released during polymerization and shrinkage during process is low.

Polymer has refractive index of about 1.57. It can be clear or made in wide range of colors which can be transparent, translucent or opaque. High dielectric strength and electrical resistivity render it suitable for making molded insulating parts, especially in high frequency range. In its cast state, plastic is odorless, tasteless, nontoxic and dimensionally stable. After molding it can be worked on standard machining and polishing equipment. Offered in liquid monomer state by **B. F. Goodrich Chemical Co.**, Rose Bldg., Cleveland, O.

▲ Mention Item NED-6182 when writing ▲

SHIELDED ARC ELECTRODE

Designed for groove butt joints and welding horizontal or flat fillets in higher tensile steels such as ASTM A-212, Fleetweld 11-HT shielded arc electrode produces good joints which are free of porosity. Fillet welds are extremely smooth, with flat face. Low spatter loss, steady arc and freedom from undercut are additional claimed features.

Electrode can be used with either alternating or direct current. In latter case, electrode should be negative. It conforms to American Welding Society specification E-7020 and E-7030. It is available in 3/16 and ¼-inch diameters, 18 inches long and is shipped in standard 50-pound containers. Made by **Lincoln Electric Co., Cleveland 1, O.**

▲ Mention Item NED-6183 when writing ▲

BUILD PROFITS

By Whipping Corrosion of

ZINC, CADMIUM, GALVANIZED!

Here is a fast, sure way to head off corrosion on zinc die cast, zinc or cadmium plated, or galvanized surfaces. Use Iridite—as a paint base or as a colorful final finish—to make your product better looking, longer lasting and much more saleable. Send for free test panel and see for yourself how Iridite whips corrosion.

NEW USES

Many large concerns are now using galvanized plus Iridite instead of more costly materials. Leading paint manufacturers have approved it as a highly efficient paint base. As a final finish, Iridite is available in a wide choice of attractive colors. Because of Iridite's excellent qualities as a paint base, all colors can be clear-lacquered for even greater durability, greater sales appeal.

PRODUCTION SPEEDED

Iridite goes on with a quick dip of 15 to 60 seconds, is easily dried, permits immediate handling, assembling, packing or shipping. More, Iridite keeps production moving, maintains automatic machine cycles, needs no special personnel or equipment. Test Iridite in your own laboratories. Write today for your test panel. Address Rheem Research Products, Inc., 14610 Standard Oil Bldg., St. Paul and Franklin Sts., Baltimore 2, Md.

SEND FOR FREE TEST PANEL TODAY!

RHEEM RESEARCH PRODUCTS, INC.

IRIDITE*

Standard Oil Bldg., Baltimore 2, Md.

*Reg. U. S. Patent Office

▲ Mention Item NED-6184 when writing ▲

3rd PRINTING... of this popular pH booklet

Do you have a copy for YOUR files?

So great has been the demand for the helpful Beckman pH booklet "What Every Executive Should Know About pH" that it is now in its *third* large printing. The high popularity of this booklet among executives, engineers, plant foremen and others is due to the simple, non-technical manner in which the complex subject of modern pH control is reduced to easily-understood fundamentals . . . fundamentals that will help you in knowing the many important savings that can be made by efficient pH control.

There may be vital production savings to be made in your plant through Beckman pH control. Make the first step toward discovering them by sending for this helpful booklet today. No obligation, of course.

BECKMAN INSTRUMENTS

NATIONAL TECHNICAL LABORATORIES • SOUTH PASADENA, CALIF.

World's Largest Manufacturers of Glass Electrode pH Equipment

▲ Mention Item NED-6185 when writing ▲

AVAILABLE—WITHOUT COST

SIX DIFFERENT FIRTHITE POSTERS

on proper care and use of carbide tools

WRITE FOR YOUR SET

Address Dept. NED

Firth-Sterling

STEEL COMPANY

McKEESPORT, PA.

▲ Mention Item NED-6186 when writing ▲

A Major Advancement in Speed Measurement

IDEAL

ELECTRIC TACHOMETER

A new method of checking all shaft and belt speeds. Can be used as "Hand Type" with generator and meter coupled together, or as "Separable Type" with generator and meter separated by electrical cord. Two ranges...0 to 2500 RPM and 0 to 5000 RPM.

Write for FREE IDEAL Machine Tool Catalog

IDEAL *Sycamore*

Machinery Products Division

IDEAL COMMUTATOR DRESSER CO.

1032 Park Ave. ★ Sycamore, Ill.

Sales offices in all principal cities

In Canada: Irving Smith Ltd., Montreal, Quebec

▲ Mention Item NED-6187 when writing ▲

The New Photographic Way to duplicate THEM *Quickly*

● Here's the new, fast photographic way to duplicate anything typed, printed, illustrated or drawn, either from one side or both sides. The new Bruning Model 2 BW and Copyflex Continuous Printer makes clear, accurate copies—is compact and easy to use. The printer on top of combination stand exposes Copyflex photographic prints or Black and White Prints. Copyflex prints are developed with three trays and a simple drier (readily available)—BW Prints are developed with the Model 153-M developing machine shown at bottom of Combination Stand. For complete information, write Charles Bruning Company, Inc., 4730-44 Montrose Avenue, Chicago 41, Illinois.

BRUNING
SINCE 1897

▲ Mention Item NED-6188 when writing ▲

EVERLASTING

against the ravages of time

For countless ages, the Pyramids of Egypt have withstood the disintegrating forces of time and the elements. In comparison with the span of human life, the Pyramids are everlasting. In applications without number, Harper bolts, nuts and other fastenings resist rust, corrosion and other destructive conditions. Compared with assemblies they hold together . . . or with common steel bolts . . . Harper Fastenings are everlasting.

everlasting fastenings

Harper stocks include over 4360 items of bolts, screws, nails, and other fastenings made of brass, bronze, copper, Monel or stainless (none of common steel). Specials made to order. Write for 104 page 4-color catalog.

THE H. M. HARPER CO.
2628 FLETCHER ST. • CHICAGO 18, ILL.
BRANCH OFFICES:
New York City • Philadelphia
Los Angeles • Milwaukee
Cincinnati • Houston
Representatives in Principal Cities

BRASS • BRONZE
COPPER • MONEL
STAINLESS

HARPER *Chicago*

▲ Mention Item NED-6189 when writing ▲

New Processes & Materials

MAINTENANCE REFRACTORY

Forming hard dense working surface, Zircoat-M zirconium silicate base refractory withstands high furnace operating temperatures and unusual furnace conditions. It can be used as protective coating on silicon carbide, fireclay, sillimanite, mullite, silica and other acid type refractories. In industrial boiler field, it is applicable for use in protecting brickwork that is exposed to severe flame impingement and corrosive action of clinker or fly ash. Sprayed application on sidewalls of aluminum industry melting furnaces increases life of brickwork and, since it is not wetted by aluminum, coating facilitates cleaning sidewalls of dross accumulation. Material is shipped dry in 100-pound bags and is then mixed with water for spraying. Made by **Basic Refractories, Inc.**, 845 Hanna Bldg., Cleveland, O.

▲ Mention Item NED-6190 when writing ▲

CONNECTING ROD REPAIR

Using EutecRod 14, repair of connecting rod of 75-ton 90 stroke per minute punch press was accomplished in 1942 and press is still in service without additional attention. Fractured edges of connecting rod were beveled to form 90-degree V with sufficient amount of metal left at bottom of groove to provide accurate alignment. Because of shape of casting, little preheating was required. Casting was warmed to approximately 300 degrees Fahr. and heat of oxyacetylene torch was concentrated on joint where Eutector Flux 14 had been applied. Weld was accomplished when weld area reached temperature of 950 to 1400 degrees Fahr., below melting point of parent metal. No machining was done following welding. Welding rods and flux made by **Eutectic Welding Alloys Co.**, Dept A-2, 40 Worth St., New York 13, N. Y.

▲ Mention Item NED-6191 when writing ▲

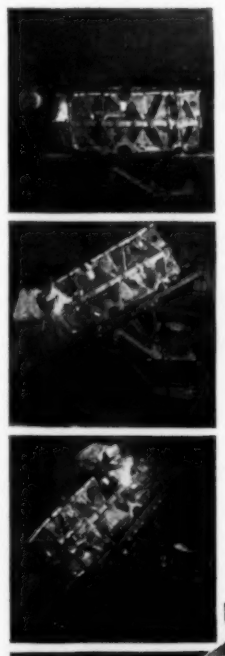
BAKING ENAMEL

Producing exceptionally hard stainproof finish which will withstand severe usage, Synox synthetic high-bake enamels are being produced in several whites which have been thoroughly tested. One type is designed for use on refrigerators, low temperature freezing units, stoves, ironers and electric mixers, and another for dishwashers and washing machines.

Enamels are claimed to have high degree of water and alkali resistance, stain resistance and color retention. They resist normal fruit acids and vinegar and are not affected by dilute or concentrated alkaline solutions. Hot soapy solutions will not dull, soften or embrittle coating.

Finish has been applied successfully to clean steel, with or without primer, to aluminum and to magnesium. Flexibility is ample to meet all service conditions. Finish is resistant to abrasion. Made by **Arco Co.**, 7301 Bessemer Ave., Cleveland 4, O.

▲ Mention Item NED-6192 when writing ▲



C-F POSITIONERS

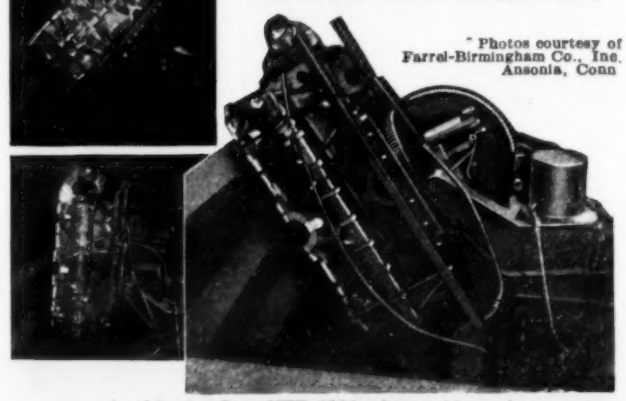
cut welding time and cost on heavy gear cases

This special installation of a 14,000 lbs. capacity C-F Positioner allows all the welding on two large units in a downhand position and with a single set-up! Two units are mounted together with the positioner extended over a pit. The long weldments can then swing from horizontal to 135° and can be rotated 360° with variable speeds from 0 r.p.m. up. The need for a "strongback" is eliminated and ample floor space and headroom under cranes assured.

C-F Positioners and installation technique can cut *your* welding time and cost. Capacities from small hand operated positioners to large units handling 30,000 lbs., are available.

Write for Bulletin WP-22

CULLEN - FRIESTEDT CO.
1304 S. Kilbourn Avenue • Chicago 23, Illinois

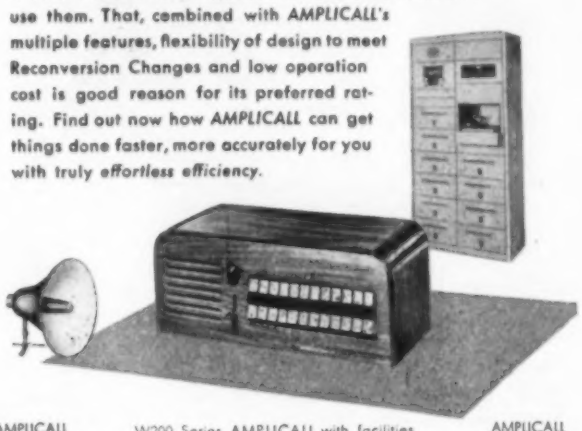


Photos courtesy of Farrel-Birmingham Co., Inc. Ansonia, Conn

▲ Mention Item NED-6193 when writing ▲

AMPLICALL . . Quality-built to serve dependably

The engineered excellence and high quality construction of AMPLICALL Paging and Two-Way Communications Systems is well known to the thousands of industrial firms who use them. That, combined with AMPLICALL's multiple features, flexibility of design to meet Reconversion Changes and low operation cost is good reason for its preferred rating. Find out now how AMPLICALL can get things done faster, more accurately for you with truly *effortless efficiency*.



AMPLICALL Weatherproof Speaker — W200 Series AMPLICALL with facilities for up to 24 master stations and up to 12 possible conversations simultaneously. — AMPLICALL Sound Control Unit

Electroneering is our business
RADIO · RADAR · SOUND · **Rauland** · COMMUNICATIONS · TELEVISION
THE RAULAND CORPORATION • CHICAGO 41, ILLINOIS

▲ Mention Item NED-6194 when writing ▲

MICROMETER ADJUSTMENT
on Your Gang Milling Set-ups with
Dayton Rogers Micrometer Adjustable Spacing Collars

Dayton Rogers Micrometer Adjustable Spacing Collars are graduated in thousandths, with plus or minus markings as illustrated. A .0005" adjustment can easily be made by visual calibration. These collars are made in 12 standard sizes from 7/8" to 2".

WRITE FOR ILLUSTRATED BULLETIN NO. 120-13.

TO MAKE ADJUSTMENT

Just loosen cutter arbor nut and make plus or minus adjustment with handy wrench, which is furnished with each collar.

DAYTON ROGERS MFG. CO. • Minneapolis 7 Minnesota

▲ Mention Item NED-6195 when writing ▲

DOUBLE
the Cutting Life of Your Saws!

Why do saws break out teeth, crack, or lose their temper? Nine times out of ten because they are used when too dull or imperfectly filed. They get too hot—and the trouble starts.

The Foley *Automatic* Saw Filer files saws so much faster you can always work with sharp saws, which not only prolongs saw life but increases power saw output from 25% to 40%. Saws are *automatically* jointed as filed, keeping all teeth even in size, shape, spacing. Foley-filed saws run so smooth, true and cool that breakage is practically eliminated. If your saws are hand-filed,—investigate!

ONE Machine Files ALL Saws

The Foley Automatic Saw Filer is the ONLY machine that files cross-cut circular saws 3" to 24" in diameter, band saws up to 4½" wide,—all hand saws. Simple attachments come with the machine for each type of saw.

30-Day Trial in Your Own Plant

You may have the privilege of a 30-day trial in your own shop, on your own work. Actual use of Foley-filed saws is more convincing than anything we can say.

FOLEY *Automatic* SAW FILER

FOLEY MFG. CO. 23 2nd Street N. E. Minneapolis 13, Minn.

Please send literature on the Foley Automatic Saw Filer and details of your 30-Day Trial.

Name .....

Address .....

▲ Mention Item NED-6196 when writing ▲

TWO CONNECTIONS PUT IT TO WORK

It's a Worthington HUSKIE

Worthington's Y C Motor Compressor comes to you ready to go to work . . . just as soon as you connect it to your source of power and air outlet. No erecting engineer or special foundation is needed . . . occupies 75% less floor space than horizontals of equal capacity. Add those features to higher speeds, easy inspection, efficient Feather*Valves, drive adaptability and you'll see why *there's more worth in Worthington*. Write for Bulletin L-667-B1 . . . Publication Dept., Harrison, N. J. *Worthington Pump and Machinery Corporation, Compressor Division, Buffalo, N.Y.* *Reg. U. S. Pat. Off.

NO OTHER COMPRESSOR WILL OUTPERFORM A WORTHINGTON HUSKIE

WORTHINGTON

KS.41

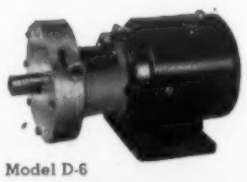
▲ Mention Item NED-6197 when writing ▲

3 EASTERN CENTRIFUGAL PUMPS

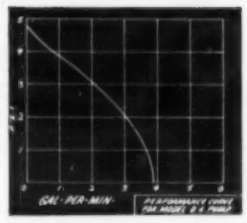
. . . for 3 totally different applications

MODEL D6 is a compact lightweight centrifugal pump designed for continuous duty, in applications requiring small volume and pressure. It is very quiet in operation and is ideally suited for circulating uses in laboratory and light industrial requirements. Pump and motor are close coupled with an open type impeller being mounted directly on the motor shaft extension. Equipped with either stuffing box or a mechanical rotary seal. There are no bearings in the pump proper. Motor is a 1/30 H.P. totally enclosed fan cooled induction type and is suitable for use under inflammable conditions.

SIZE: 7½" x 4½" x 4¾"
WEIGHT: 11½ lbs.
POWER: 1/30 H.P.
ALLOYS: Available in Cast Iron, Bronze, Stainless Steel, Monel Metal and Hastelloy C.



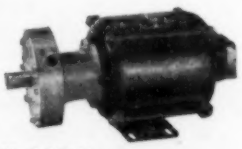
Model D-6



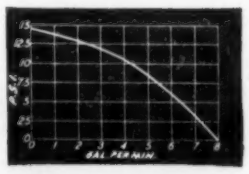
MODEL D11 is a ruggedly constructed general purpose centrifugal model designed for continuous duty under hard usage. Its availability with motors of various frame enclosures and current specifications makes it readily adaptable over a wide range of pumping applications.

Motor is a ⅛ H.P. heavy duty General Electric, induction type. Semi-enclosed motors are recommended for general service where hazardous or corrosive conditions do not exist. Totally-enclosed motors are furnished for locations where the unit is exposed to dust fumes, or spilled solutions. Explosion Proof motors (Underwriters approved Class I, Group D) are available for use under hazardous conditions. All can be supplied with sleeve or ball bearings. Available with either stuffing box or rotary seal.

SIZE: 10¾" x 5" x 5½"
WEIGHT: 20 lbs.
POWER: ⅛ H.P.
ALLOYS: Available in Cast Iron, Bronze, Stainless Steel, Monel Metal and Hastelloy C.

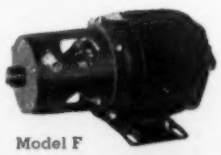


Model D-11

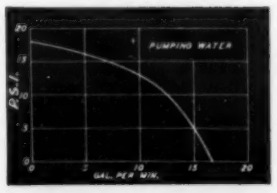


MODEL F is a heavy duty centrifugal pump designed for continuous operation in applications requiring sizeable volumes or pressures with a minimum expenditure of size and weight. Powered by a General Electric induction motor for long, silent, trouble free operation. Available with either stuffing box or mechanical rotary seal. All motor enclosures, including explosion proof Class I, Group D, are available.

SIZE: 11½" x 6½" x 6¾"
WEIGHT: 35 lbs.
POWER: 1/3 H.P.
ALLOYS: Available in Cast Iron, Bronze, Stainless Steel, Monel Metal and Hastelloy.



Model F



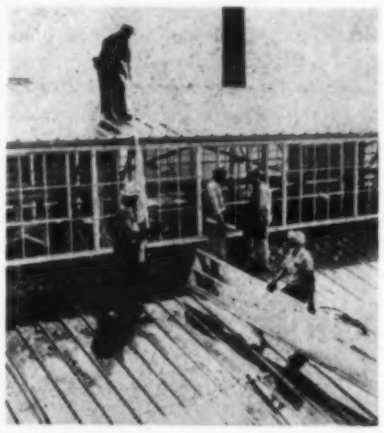
If you need small, highly efficien. pumps for industrial uses, Eastern has over 600 variations for your application or will be pleased to design and produce one to meet your specific needs when a reasonable quantity is involved.

EASTERN ENGINEERING COMPANY
47 FOX STREET NEW HAVEN 6, CONN.

▲ Mention Item NED-6198 when writing ▲

NEW *Applications*

ALUMINUM ROOFING



Recently installed over cast house of company's plant No. 1, illustrated aluminum roof is highly resistant to corrosion. Formerly used metal roofing material is said to have required replacing at intervals of 8 months, because of corrosion caused by cast house fumes in building. Before aluminum roof was installed, test panels of aluminum were exposed to cast house conditions for more than a year and they showed no appreciable effects from corrosion. Material used in roof is 24S-T Pure Clad alloy 0.032-gage sheet. Made by Reynolds Metals Co., 2500 S. Third St., Louisville 1, Ky.

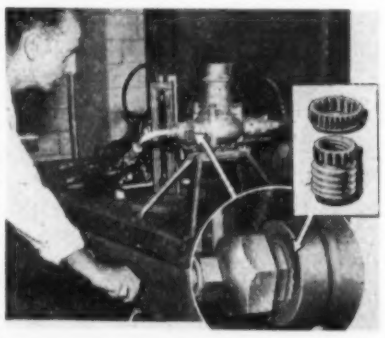
▲ Mention Item NED-6199 when writing ▲

SCALE CONTROL MATERIAL

Having lime solubilizing, fungistatic and detergent properties, Airefiner No. 52 is designed to inhibit slime growth and to control formation of lime scale deposits in evaporative condensers and evaporative coolers. Material is white powder, completely soluble, odorless and nontoxic. One ounce added to 10 gallons of make-up water in sump is said to keep water sweet, prevent slime and hard lime scale from forming on coils, keep equipment clean and minimize need for cleaning. Made by Oakite Products, Inc., 32G Thames St., New York 6, N. Y.

▲ Mention Item NED-6200 when writing ▲

LOCKING INSERTS

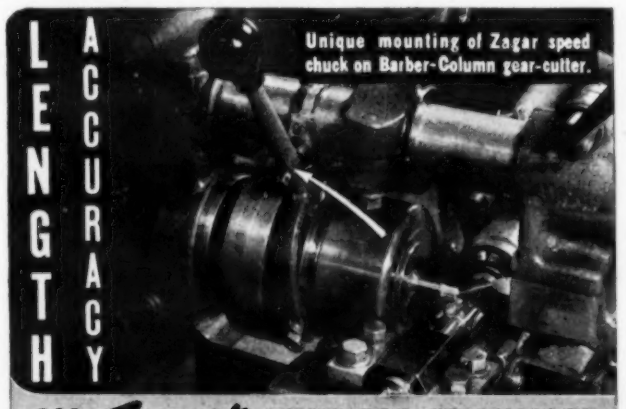


Application of Rosan locked-in steel inserts to connection between meter for measuring gasoline and pipeline eliminated leakage problem for Pan American Airways on Boeing 314 planes. Periodical checking formerly caused soft metal of ports to become worn after a few operations.

Rosan locking system features locked-in insert or stud for insertion in any material. When pressed or driven in place, outer teeth broach walls of counterbore and lock unit in place. Removal is accomplished by shallow drilling operation that does not disturb parent material. Free consultation service is offered on engineering problems involving application of inserts. Made by Bardwell & McAlister, Inc., P. O. Box 1310, Hollywood, Calif.

▲ Mention Item NED-6201 when writing ▲

LENGTH ACCURACY



ALL *Zagar* FIXTURES ELIMINATE LENGTHWISE MOVEMENT OF COLLET

Work parts stay exactly where you want them. They don't pull away from the original position in tightening the collet, since the collet does not move lengthwise. Do it faster, better, for less with collets — with *Zagar* Collets.

You can now buy Zagar Collets soft — in blanks — and then bore them yourself.

ZAGAR TOOL, INC.
23383 Lakeland Boulevard
CLEVELAND 17, OHIO

Zagar INDEXING AND HOLDING FIXTURES

▲ Mention Item NED-6202 when writing ▲

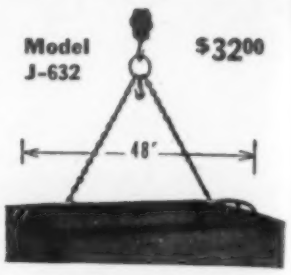
Time and Back Savers

Model NS-288 $55.25

Barrel and Box Grab

For picking up any type of wood or steel barrel, box or container, from 40" diameter down to small nail keg size. Capacity, 2000 lbs. Weight 35 lbs. Toggle constructed of heavy flat bar stock, over sized pivot pin of cold rolled steel with retainer head.

Model J-632 $32.00



Universal Grab

For picking up all types of heavy boxes, crates, bales or other loads where hooks may be used. Use on boxes or loads 16" to 48" across. Heavy, forged steel hooks. Sturdy ¾" BBB chains. Adjustable for use where ceilings are high or low. Weight 27 lbs. Capacity 2000 lbs. The heavier the load, the tighter the grip.

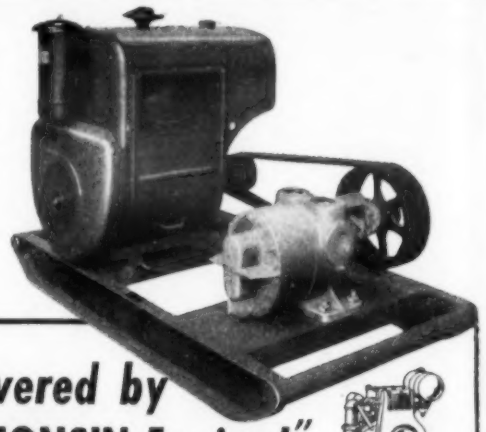
★

Prices are Net, f.o.b. Detroit, Mich.

To avoid error order by "Model" number.

FISHER EQUIPMENT COMPANY
15133 LIVERNOIS ST. DETROIT 21, MICH.

▲ Mention Item NED-6203 when writing ▲



Model 100-F Roper Pump powered by Model VE-4 Wisconsin 4-cylinder Air-Cooled Power Unit — Used in Oil Field Service.

"*Powered by* WISCONSIN *Engine!*"

Whether you are *manufacturing* or *buying* any type of engine-powered equipment within a 1 to 30 hp. range, the phrase, "*Powered by Wisconsin Engine*" carries the broadest possible guarantee of dependable, heavy-duty service, low operating and maintenance costs.

Today more than 500 equipment manufacturers specify Wisconsin Air-Cooled Engines.

Most H.P. per pound

WISCONSIN MOTOR Corporation
MILWAUKEE 14, WISCONSIN, U. S. A.
World's Largest Builders of Heavy-Duty Air-Cooled Engines

▲ Mention Item NED-6204 when writing ▲

10 OUT OF 10

PLANTS GAIN MORE BY USING

CESCO Safety Equipment

New Air-Flow Helmet Welding helmet provides safety, greater comfort, as well as protection from fumes. Write for Bulletin B.

CESCO's complete line of head and eye safety equipment *always* benefits users —prevents injuries, saves lives, saves dollars and earns profits.

More than that, CESCO offers exclusive features which produce added benefits.

Check the equipment shown on this page for specific examples. And, check with a CESCO man to find out more about the CESCO line.

New Acid Hood Guards against most dangerous acids. Has air-feed unit. For details on this new Acid Hood send for Bulletin A today.

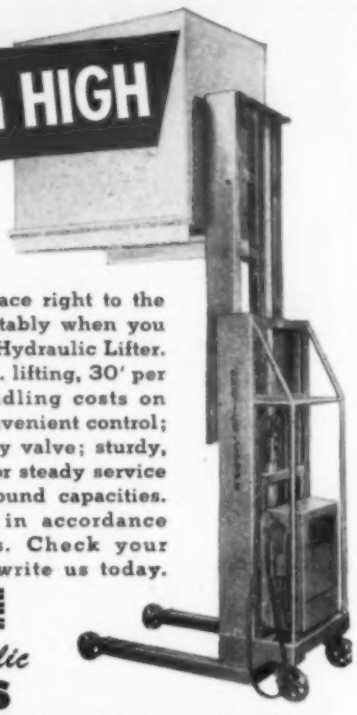
New Face Shields Quick-change plastic window. Comfortable, shaped headgear. Send for Bulletin F.

New CESCO Goggles Coverlite with safety lenses—replaceable. Spectacle type in many styles. Write, Bulletin C.

CHICAGO EYE SHIELD COMPANY
23 8 Warren Boulevard • Chicago 12, Ill.

CESCO FOR SAFETY

▲ Mention Item NED-6205 when writing ▲



Stack 'em HIGH

for **Lower Costs**

Every foot of space right to the ceiling can be used profitably when you have the Service Electric Hydraulic Lifter. Its fast action (10' per min. lifting, 30' per min. lowering) cuts handling costs on countless lifting jobs. Convenient control; positive no-overload safety valve; sturdy, twin-roller chains. Built for steady service . . . 1000 and 2000 pound capacities. *PROMPT DELIVERY* in accordance with WPB regulations. Check your Service Distributor or write us today.

SERVICE *Electric Hydraulic* **LIFTERS**

SERVICE CASTER & TRUCK DIVISION of Domestic Industries, Inc.
578 N. Brownswood Avenue, Albion, Michigan
Eastern Factory: 400-08 Somerville Avenue, Sommerville, Mass
Toronto, Canada: United Steel Corporation, Ltd., SC&T Co. Div.

SERVICE POWER LIFT TRUCKS · LIFTERS · CRANES · TRUCKS & TRAILERS · DOLLIES · SKIDS · CASTERS · WHEELS

▲ Mention Item NED-6206 when writing ▲

A Name that is known for **TODAY'S** GEAR PRECISION

Abart

PRODUCTION SPEED PERFORMANCE—

All depend on quality, design and closest finish of gears. Never before was the ultimate in *precision* so vital. Today's high standards are fulfilled in Abart Gears, accurate tough, long-lived—exactly to your requirements.

Send B/P or Specifications for prompt estimate

Any quantity, small or large. Spur, Worm, Bevel, Helical, Internal. Any gear material. No stocks. Wire or write.

Abart **SPEED REDUCERS:**

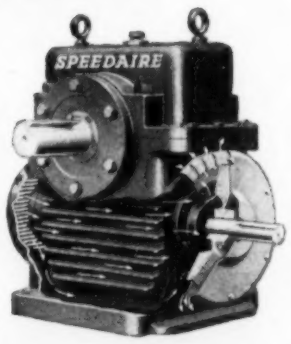
Worm, Spur and combinations. Over 75 types and sizes. Ask for catalog

Abart GEAR AND MACHINE CO.
MANUFACTURERS OF *Speed Reducers & Gears*
4822 WEST 16th ST., CHICAGO 50, ILLINOIS

▲ Mention Item NED-6207 when writing ▲

"New Fan-Cooled Speedaire? If Cleveland Makes It we can O. K. It!"

From the Chief Inspector's Viewpoint:



"I know by experience that our customers can forget power failures when Cleveland Worm Gear Reduction Units go on our machines—because Clevelands can take it, even on 24-hour schedules.

"Now the new Speedaire Fan-Cooled Units are coming through and we see *still better* Worm Gear Performance ahead. Cleveland builds them—that's recommendation enough."

We'll be glad to send Speedaire Bulletin 300.

The Cleveland Worm & Gear Company, 3283 East 80th Street, Cleveland 4, Ohio.

Affiliate: The Farval Corporation, Centralized Systems of Lubrication

IN CANADA: *Peacock Brothers Limited*

Cleveland **SPEEDAIRE** FAN COOLED *Worm Gear Reduction Units*

▲ Mention Item NED-6208 when writing ▲

NEW *Literature* AND *Catalogs*

FABRICATED ALLOY CONTAINERS—12-page illustrated bulletin No. 15 describes baskets, crates, trays and fixtures, carburizing boxes and special equipment for handling parts through heat treating, quenching, pickling, degreasing, rust-proofing baths and similar operations—issued by Stanwood Corp., 4819 W. Cortland St., Chicago 39, Ill.

▲ Mention Item NED-6209 when writing ▲

RESIN ADHESIVES—revised handbook "Resyn Adhesives—When and How to Use Them" contains additional information on selection and use of synthetic resin adhesives for packaging, converting and assembling operations—types are defined and properties discussed—issued by National Adhesives, 270 Madison Ave., New York 16, N. Y.

▲ Mention Item NED-6210 when writing ▲

INDUSTRIAL MOTION PICTURES—booklet "Movies Go to Work" shows how sound motion pictures can serve in industry—sections include "Training Salesmen", "Selling Your Product", "Increasing Production", "Improving Personnel Relations", and "Interpreting Your Material"—issued by Bell & Howell Co., 7174 McCormick Rd., Chicago 45, Ill.

▲ Mention Item NED-6211 when writing ▲

ABRASIVE PRODUCTS—illustrated folder "Norton Cylinders and Segments for Surface Grinding" shows typical examples of cylinders and segments used for surface grinding—available abrasives, bonds, grain sizes, grades and structure are listed—issued by Norton Co., 200 New Bond St., Worcester 6, Mass.

▲ Mention Item NED-6212 when writing ▲

VALVES & TRAPS—8-page illustrated bulletin No. 645 discusses combination steam and water valves for compression molding presses which process plastic materials requiring heating and cooling cycles; two-pressure valves for closing, squeezing and opening molding presses; expansion steam traps and thermostatic bellows type steam traps—issued by W. H. Nicholson & Co., 162 Oregon St., Wilkes-Barre, Pa.

▲ Mention Item NED-6213 when writing ▲

CONTOUR SAWS—illustrated chart lists various kinds of materials and tells contour saw tooth and speed to use for different sizes—information is also applicable to straight sawing with hard edge flexible metal cutting band saw blades—opposite side of chart gives similar information on skip tooth band saw blades—issued by Capewell Mfg. Co., 60 Governor St., Hartford, Conn.

▲ Mention Item NED-6214 when writing ▲

WELDED PRODUCTS—24-page illustrated booklet describes welded products fabricated from open hearth, stainless, alloy and clad steels for use in chemical, petroleum, refining and steel industries—issued by National Annealing Box Co., Washington, Pa.

▲ Mention Item NED-6215 when writing ▲

HANDLING + Processing + HANDLING + Assembling + HANDLING + Packing + HANDLING + Storage + HANDLING

Cubic Transportation—moving, lifting and placing materials—is essential to efficient handling. Where a product is handled is as important as *what* that product is. Towmotor can move materials in any plane from floor level to a 20 foot height, utilizes overhead space otherwise wasted. Write Towmotor Corp., Div. 8, 1226 East 152nd St., Cleveland 10, Ohio.

ASK FOR TOWMOTOR DATA FILE

TOWMOTOR
THE ONE-MAN-GANG

▲ Mention Item NED-6216 when writing ▲

PERISHABLE TAKE CARE!

WARD OFF HAND HAZARDS

with *Surety* SURESEAL SYNTHETIC RUBBER GLOVES

Nature's defenses weren't intended to withstand acids, oils, solvents used in modern industry. Skin protection . . . complete, comfortable, and worker-acceptable . . . is assured by hard-to-snag, abrasion-resistant Surety Turn-Cuffs. They're made of better synthetic rubber with 14 times service life of natural rubber, other synthetics. Patented design for maximum safety when working in liquids. Turn-Cuff up stops fluids running down arms. Cuff down adds two inches welcome safeguard. . . . Get Surety for SAFETY!

Send for your Surety Glove Selector—takes the guess work out of glove buying. Do it now!

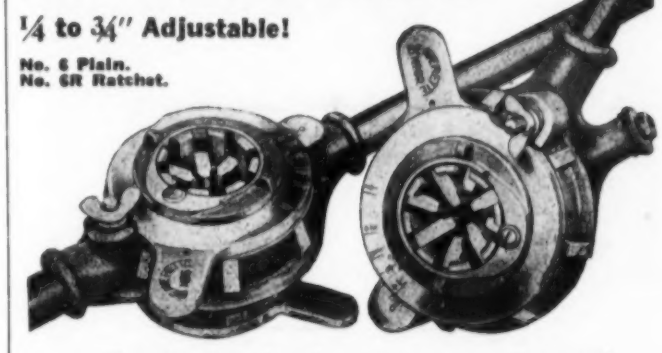
THE *Surety* RUBBER COMPANY
CARROLLTON · OHIO

▲ Mention Item NED-6217 when writing ▲

Beaver "4" Way One Piece Threaders

¼ to ¾" Adjustable!

No. 6 Plain.
No. 6R Ratchet.



Popular favorites for many years. Patented design. Nothing similar on the market. Fully self-contained. No loose dies—no loose bushings. Fully adjustable for standard, oversize or undersize threads. Thread 1/4, 3/8, 1/2 and 3/4. 1/8 inch dies extra, when desired.

Buy through any leading supply house.

Write for latest 48-Page Catalog No. 44 of hand tools and power units and machines.

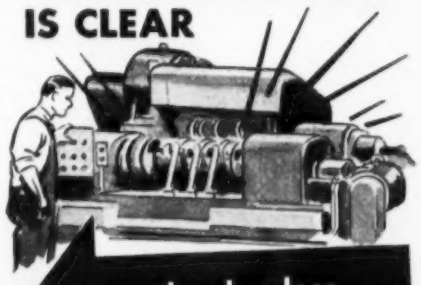
BEAVER PIPE TOOLS

1045 Henry Ave. **Warren, Ohio**

▲ Mention Item NED-6218 when writing ▲

'PHONE RECEPTION IS CLEAR

Modern Booth for your plant



in the doorless BURGESS ACOUSTI-BOOTH

You can put your shop 'phone wherever you *need* it . . . next to noisy machines . . . whirring motors . . . anywhere . . . if you install the telephone in a Burgess Acousti-Booth. Distracting noises are soaked up like a blotter in the thick sound-absorbing walls of the Acousti-Booth. You can then hear what the other fellow is saying. No garbled messages . . . no misunderstood orders. Airy, light, well ventilated. Easy to keep clean and maintain. No moving parts to get out of order.

Mail Coupon for Free Booklet Today!

Burgess-Manning Company
2817-C W. Roscoe St.
Chicago 18, Illinois

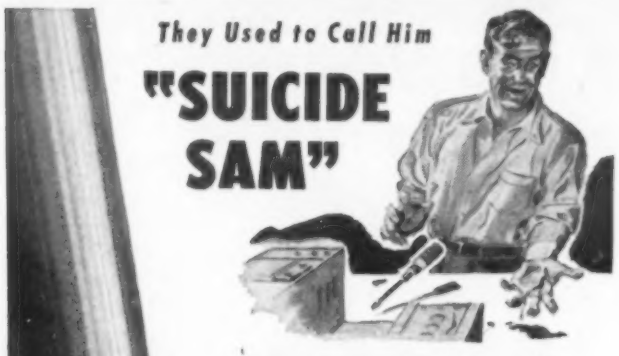
Please send illustrated booklet describing the Burgess Acousti-Booth.

NAME _____

FIRM NAME _____

STREET-CITY _____

▲ Mention Item NED-6219 when writing ▲



They Used to Call Him

"SUICIDE SAM"

...because that slotted-screw driver used to slip all the time, and carve him up—in spite of the best he could do. And Sam wasn't weak either in body or brain!

...but he hasn't stabbed himself once...since they gave him AMERICAN PHILLIPS SCREWS

A slotted-screw driver is a dangerous weapon.... But there are open roads to trouble in the recessed heads of American Phillips Screws. The 4-winged Phillips Driver can't skid... out of this tapered recess, no matter what the driving stress. All the worker has to do is put the American Phillips head onto the bit of his power driver, aim it at the work, and pull the trigger. No straining, no wobbling, *no driving any way but straight.*

Net Return to You: Total Time Savings as High as 50%

AMERICAN SCREW COMPANY
Providence 1, Rhode Island

AMERICAN PHILLIPS *Screws*

▲ Mention Item NED-6220 when writing ▲

LEAKPROOF JOINTS

With JOHN CRANE *Insoluble* PLASTIC LEAD SEAL

- *Insoluble* in water, gasoline, propane, CO^2, etc. Won't wash out.
- *Seals quickly;* fills clearances and imperfections.
- *Stops galling, rust.* Never hardens; joints easily taken apart later.
- *Ready for use,* in 1, 5, 7-lb. cans.

Order a trial can of Plastic Lead Seal—watch it reduce maintenance in your plant or product.

Right off the Bat!

CRANE PACKING COMPANY
1816 Cuyler Ave. • Chicago 13, Ill.
BALTIMORE, BOSTON, BUFFALO, CLEVELAND, DALLAS, DETROIT, HOUSTON, LOS ANGELES, NEW ORLEANS, NEW YORK, SAN FRANCISCO, PHILADELPHIA, PITTSBURGH, ST. LOUIS, TULSA
CRANE PACKING COMPANY, LTD
HAMILTON, ONTARIO, CANADA
BRANCHES: Montreal, Toronto, Vancouver

▲ Mention Item NED-6221 when writing ▲

INDUSTRIAL PARTS FOR ALL TYPES of PRODUCTS

From minutely accurate plastic scale or dial for delicate instruments to heavy metal nameplate for giant rugged machines, Bastian has been successfully making parts for America's leading manufacturers for decades.

We would like the opportunity to consult with you and help you solve your particular parts problem.

For samples of our work, just fill in coupon below and we'll mail you this booklet of ours on Industrial Parts together with samples of our work and an idea of prices.

BASTIAN BROS. CO.
Serving the trade since 1895
Rochester, N. Y.

NAME _____
TITLE _____
COMPANY _____
CITY _____ K

▲ Mention Item NED-6222 when writing ▲

New Literature—Continued

GRINDER ATTACHMENT—4-page illustrated folder "Make Your Surface Grinder Do Cylindrical Work" describes multipurpose grinder attachment—gives directions for making angular cuts, using indexing mechanism, and other details—issued by Strong Mfg. Co., 5312 Westminster Ave., Philadelphia 31, Pa.

▲ Mention Item NED-6223 when writing ▲

RANGES—16-page illustrated catalog No. 45 presents specifications and general information on Shipmate line of ranges—models are shown for coal, wood, oil or stoker fired operation—issued by Stamford Foundry Co., Stamford, Conn.

▲ Mention Item NED-6224 when writing ▲

TOOL STEEL DRILL ROD—24-page illustrated booklet gives information on selection of tool steel drill rod, heat treatment and complete tables of standard sizes—shows how to obtain good results where drill rod is used for small precision tools or intricate parts—issued by Carpenter Steel Co., 318 W. Bern St., Reading, Pa.

▲ Mention Item NED-6225 when writing ▲

MOBILE POWER UNIT—24-page illustrated booklet "Jeep Planning" shows universal Jeep performing wide variety of agricultural and industrial work—explains usage as light tractor, mobile power unit, light truck and passenger conveyance—issued by Willys-Overland Motors, Inc., P.O. Box 903, Toledo 1, O.

▲ Mention Item NED-6226 when writing ▲

FIRE HOSE—4-page illustrated folder "Hot Facts for Firemen" presents details on Jupiter and Torrent fire hose—page is devoted to twelve tips for lengthening fire hose life—issued by B. F. Goodrich Co., Dept. E, 500 S. Main St., Akron, O.

▲ Mention Item NED-6227 when writing ▲

BRONZE BUSHINGS & BARS—18-page illustrated catalog No. 45 discusses ready to use bushings and machined bronze bars made of Shook 664 phosphorized bearing bronze—listings include over 800 stock sizes of machined bushings, variety of groove styles, over 400 stock sizes of precision machined bored and solid bronze bars, and babbitt metals—issued by Shook Bronze Corp., Lima, O.

▲ Mention Item NED-6228 when writing ▲

QUALITY CONTROL—28-page illustrated booklet "Dimensional Quality Control Primer" explains simplified method for applying statistical quality control to dimensions—sample work sheet and shop analysis chart are included—these are available from company—issued by Federal Products Corp., 1144 Eddy St., Providence, R. I.

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HYDRAULIC SYSTEMS — 8-page illustrated bulletin No. 013-G presents information on installation and maintenance of Barnes self-contained hydraulic units—includes suggestions for piping, hydraulic oil, mounting valves and general maintenance—charts show internal working pressures for steel tubing, and flow capacity of pipes at recommended flow velocities—issued by John S. Barnes Corp., 301 S. Water St., Rockford, Ill.

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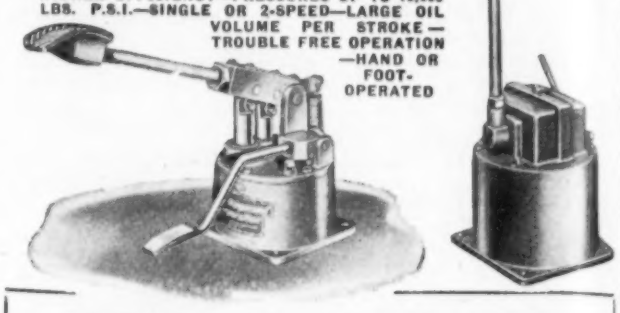

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Out of this book stemmed the material handling principles and methods that have enabled the Army and Navy to successfully handle in this war the burden of supplies, munitions and equipment.

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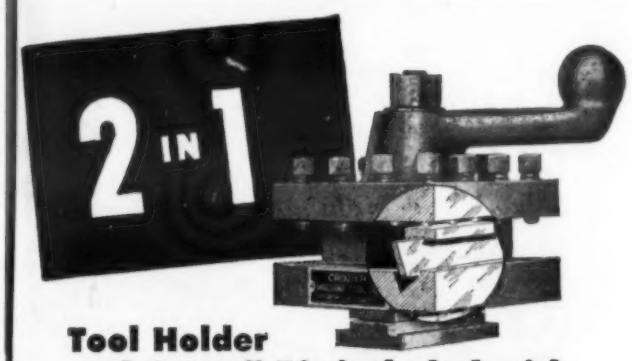

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New Literature—Continued

REAGENT FEEDERS—12-page illustrated bulletin No. F6-B6 describes wet type and cone and belt dry type reagent feeders—details are shown and dimensions, weights, capacities and other pertinent data are included—issued by Denver Equipment Co., P.O. Box 5268, Denver 17, Colo.

▲ Mention Item NED-6238 when writing ▲

PREFABRICATED CONSTRUCTION—8-page illustrated bulletin "The Rigidsteel Standard Building" presents complete information on prefabricated steel building which is stiff-jointed structure made up of system of beams, joined together to form rigid frame and designed so that all field connections are bolted—issued by National Machine & Foundry Co., 313 Sixth Ave., Pittsburgh 22, Pa.

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DIE STAMPING ACCESSORIES—8-page illustrated catalog S, second edition, describes Strippit accessories to eliminate necessity of removing dies from presses or disassembling to repair or replace broken or defective parts—installation, applications and specifications are covered—issued by Wales-Strippit Corp., 363 Payne Ave., North Tonawanda, N. Y.

▲ Mention Item NED-6240 when writing ▲

POWDER METAL CONTACTS—4-page illustrated folder No. 158 describes Callinite high conductivity facing material for high current applications where pitting, sticking or welding of contacts may occur—various types, sizes and shapes are covered—issued by Callite Tungsten Corp., 540 39th St., Union City, N. J.

▲ Mention Item NED-6241 when writing ▲

GEAR TOOTH CUTTING—32-page illustrated booklet No. M-1397 contains instructions on cutting worms and worm wheels, and spur, helical and bevel gear teeth on any make milling machine—tables, drawings and formulas supplement text—issued by Cincinnati Milling Machine Co., Cincinnati 9, O.

▲ Mention Item NED-6242 when writing ▲

FLOW MEASUREMENT—two illustrated bulletins Nos. 30-1 and 11C2 discuss indicating and recording fluid flow through pipe lines by means of velocity head principle and model 163 indicator for measuring flow, liquid level and pressure differentials respectively—issued by Barton Instrument Co., 2306 E. 38th St., Los Angeles 11, Calif.

▲ Mention Item NED-6243 when writing ▲

NEEDLE BEARINGS—153-page illustrated manual 32nd edition is combined catalog and engineering and application data reference volume for designers and engineers — includes needle bearing applications, specifications, tolerances, load capacities, design factors, installation and inspection data, and various standards—issued by Torrington Co., South Bend 21, Ind.

▲ Mention Item NED-6244 when writing ▲

FINE DUST COLLECTION — Illustrated bulletin No. 101 deals with problems in collection of fine dust, particularly in range of 325 mesh screen or finer—precipitating tests on dusts in industrial field, various powdered foods and chemicals are covered—issued by Thermix Engineering Co., First National Bank Bldg., Greenwich, Conn.

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Constancy: ± ½° F.

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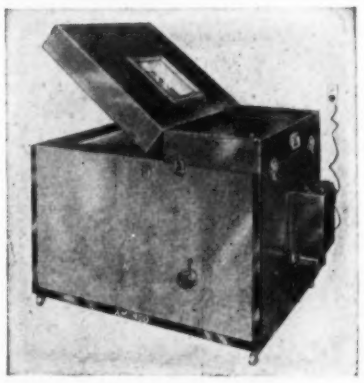

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EVERY TYPE AND SIZE

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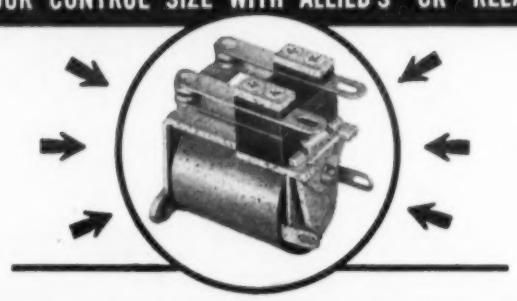

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New Literature—Continued

FORGED GASKETS—8-page illustrated booklet No. 45 gives information on Gruv-Seal forged gaskets made of ingot iron, nickel, chromium and monel metals which are suited for high pressure and high temperature service—applications, standard sizes and list prices are included—issued by Steel Improvement & Forge Co., 970 E. 64th St., Cleveland 14, O.

▲ Mention Item NED-6253 when writing ▲

UNITED NATIONS CHARTER—26-page illustrated pocket-size booklet contains complete text of United Nations Charter and listing of signatories—available upon request on company letterhead only—issued by Clark Equipment Co., Buchanan, Mich.

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COLOR PLANNING—Series of booklets outlines applications of Color Dynamic principles to various types of businesses, institutions and enterprise—pamphlets cover color use in industry; hospitals and institutions; schools; offices, hotels, clubs and restaurants; automobile sales and service departments; and homes—issued by Pittsburgh Plate Glass Co., 632 Duquesne Way, Pittsburgh 22, Pa.

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ISOTHERMAL QUENCH FURNACES — 8-page illustrated bulletin No. 113 describes Ajax isothermal heat treating process, batch type units, conveyorized units, quench furnace features, isothermal treatment of carburized work and typical batch layout—issued by Ajax Electric Co., Frankford Ave. at Delaware Ave., Philadelphia 23, Pa.

▲ Mention Item NED-6256 when writing ▲

CAPACITOR MOTORS—16-page illustrated bulletin No. 10-C deals with small capacitor and synchronous motors which have quiet operation and are reversible by simple switching—drawings, motor selection data and specifications are included—issued by Robbins & Myers, Inc., Dept. C., Springfield, O.

▲ Mention Item NED-6257 when writing ▲

HEATING & MELTING EQUIPMENT—12-page illustrated catalog No. 1039 covers line of heating and melting equipment for water works, sewer departments, public utilities, and similar applications—included are fire guns, melting furnaces, steam thawers, salamanders, concrete heaters, ground thawers and melting kettles—issued by Hauck Mfg. Co., 128-138 Tenth St., Brooklyn 15, N. Y.

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FRACTIONAL HORSEPOWER DRIVES — Catalog contains price lists and specifications on line of fractional horsepower sheaves and belts—included are condensed drive tables for wide range of center distances and drive ratios—issued by American Pulley Co., 4245 Wissahickon Ave., Philadelphia 29, Pa.

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SPARK PLUG BUSHINGS — 8-page illustrated bulletin No. 237-A describes use of Heli-Coil screw thread inserts as 14 and 18-millimeter spark plug bushings—contains data on assembly and servicing and presents details on typical installation—issued by Aircraft Screw Products Co., 47-23 35th St., Long Island City 1, N. Y.

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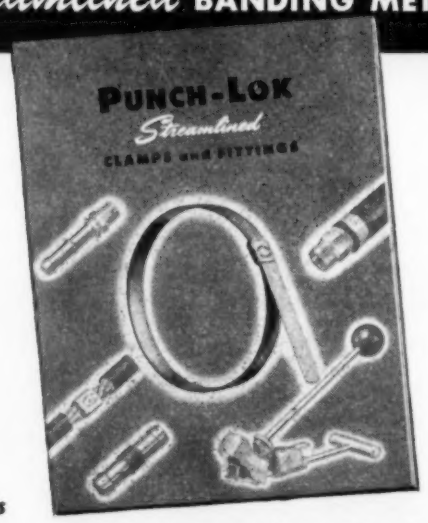

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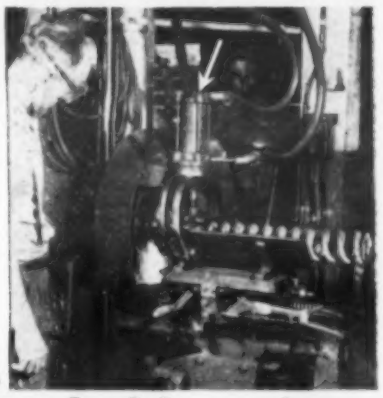

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1. Udylite No. 1 Bright Zinc Salt—The bright zinc solution in dry form, simply add water.
2. Udylite No. 2 Bright Zinc Salt—The zinc compound of high purity for replenishing zinc solutions.
3. Udylite Zinc Brightener—The addition agent for cyanide zinc solutions which imparts brilliant luster to the zinc deposit.
4. Udylite equipment of all kinds for the application of zinc coatings and their subsequent surface treatments.

Let Us Help You SOLVE YOUR METAL PLATING AND FINISHING PROBLEMS

THE **Udylite** CORPORATION
1651 EAST GRAND BOULEVARD
DETROIT 11, MICHIGAN
REPRESENTATIVES IN ALL PRINCIPAL CITIES

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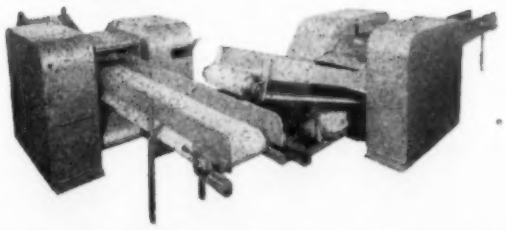
CUTS THEM INTO EXACT PIECES

·Plastics
·Rags
·Yarn or thread
·Paper
·Rubber etc



TAYLOR-STILES PRECISION CUTTERS

are the only machines that will cut plastics, rags, yarn, etc. into pieces of exact dimensions.

Used by leading manufacturers in scores of chopping and shredding.

Improve the fineness, accuracy and volume of your work. Write us about your problem or send material for sample cutting.

TAYLOR-STILES & COMPANY
7 Bridge Street Riegelsville, N. J.

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FOR HIGHEST ACCURACY in your high-voltage measurements-- Use SPHERE GAPS

G.E. ANNOUNCES a complete line for a-c and d-c testing

Advantages: ● No overvoltage on object under test ● Crest voltage indicated regardless of wave form ● Not appreciably affected by humidity ● Practically no time lag ● Spark-over voltages consistent

Available in seven sphere sizes, 2 to 100 centimeters in diameter, for spark-over voltage ranges of 8.5- to 45-kv crest up to 261- to 1338-kv crest. Current-limiting resistance assemblies are included. If desired, a motor drive can be obtained on the larger sphere gaps for easy adjustment. Write for HB-5102, page 1. *Apparatus Dept., General Electric, Schenectady, N. Y.*

GENERAL ELECTRIC

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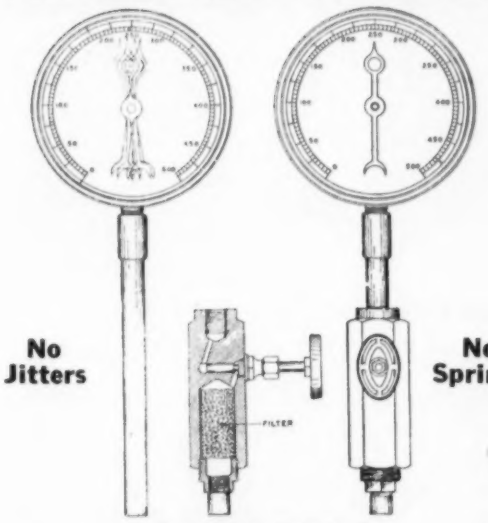
A PULSATION DAMPENER THAT WILL NOT "PINCH OFF"



No Jitters

No Springs

CAMPBELL MICRO-BEAN

Indestructible. Stabilizes gauge. Adjustable instantly to all conditions of flow, viscosity and surface tension. Provides 48 to 1 valve taper. Saves springs, diaphragms, cup leathers and Bourdon tubes. Thousands used by Army Air Forces.

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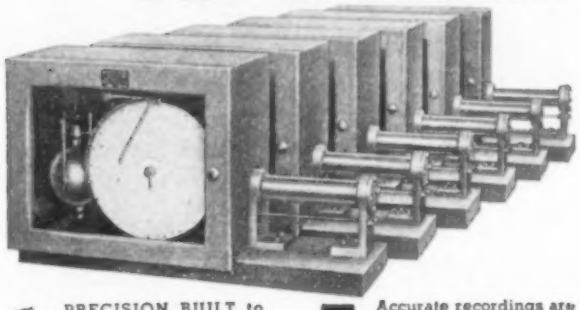
8 GOOD REASONS for Selecting ARCCO-ANUBIS LIQUID GRAVITOMETERS



1 PRECISION BUILT to give PRECISE measurements of Specific Gravity.

2 Fully temperature compensated to record at 60° F. or other predetermined temperature.

3 Sample flows continuously.

4 Foreign liquids and gas are automatically purged.

5 Accurate recordings are made with minimum time lag.

6 Accuracy maintained with minimum attention.

7 Perfectly adapted to high pressure operation.

8 Hundreds in use in refineries, plants and lines of major companies.

AMERICAN RECORDING CHART CO.
3113 E. 11th St. Los Angeles 23, Calif.

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. . . JUST TRY 1

MOCCASIN BUSHING *on your most* **TROUBLESOME BEARING**

The success of Moccasin Bushings' efficiency lies in their unique lubrication principle. Oil is drawn from a reservoir in the bearing housing and is distributed by capillary action in a continuous, unbroken film over the entire bearing surface. Drippage and seepage of oil is entirely eliminated, and under ordinary circumstances they require attention only two to four times a year—just try one on your most troublesome bearing. Guaranteed for satisfactory service.

Moccasin BUSHING COMPANY
CHATTANOOGA, TENNESSEE

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5-RANGE PORTABLE KILOVOLTMETER

1, 2, 5, 10, 20 kilovolts DC at full scale. Features of No. 759 Kilovoltmeter include a reversing switch; built-in ±2% accuracy meter with binding posts for external meter where required; meter multiplier section adjusted within 0.1% permitting taps to be used as high resistance standards.

MEDIUM-RANGE MILLIOHMMETER

Shallcross No. 673-F has six scales with ranges of 0-0.5-1-5-10-50 and 100 ohms full scale. Direct reading scales are of convenient, easy-to-read linear type. Separate connections provide for current and potential to minimize lead and contact resistance effect when measuring low values.

SHALLCROSS MFG. CO.
DEPT D-105 COLLINGDALE, PA.

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- CUTS ALL METALS—WOOD—PLASTICS
- SAWS AND FILES IN INACCESSIBLE PLACES
- OPERATES BY ELECTRICITY—FLEXIBLE SHAFT—AIR
- SIMPLE AND EASY TO USE—LIBERALLY GUARANTEED

SEE YOUR JOBBER OR WRITE DIRECT

Mid-States EQUIPMENT CO.
Saw-Gun Division
2439 SOUTH MICHIGAN AVENUE, CHICAGO 16, ILLINOIS

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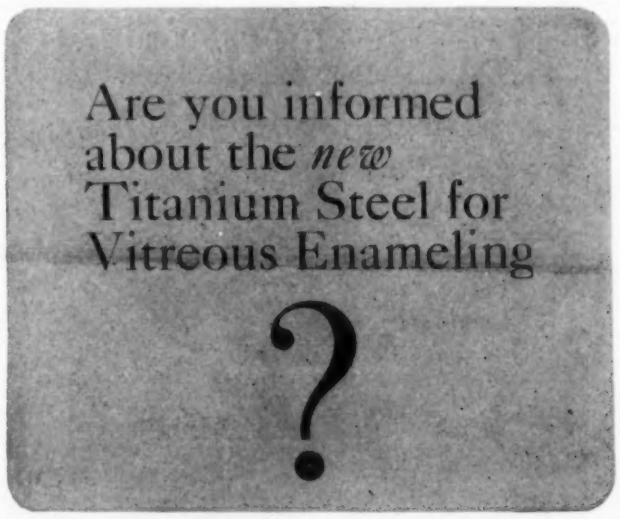
Are you informed about the *new* Titanium Steel for Vitreous Enameling



Laboratory-tested and plant-proved are the advantages of this *new* Titanium steel to manufacturers of vitreous enamel products, when recommended practice is followed in steel making, pickling and enameling.

By removing source of reboil in the stock, large cost reductions are possible. Ground coat can be eliminated and conventional cover coats may be applied directly. Sagging is minimized, and hydrogen penetration is sharply reduced.

Lighter weights of enamel are possible, yielding a greater resistance to thermal shock. Drawing properties are equivalent to that of the best drawing steel.

Manufacturers of both steel and enameled products may obtain technical data from a member of our Technical Staff. Consult your steel supplier for deliveries.

Pending patent applications on the new enameling process and product made thereby are owned jointly by Inland Steel Company and The Titanium Alloy Manufacturing Company under Trust Agreement.

THE TITANIUM ALLOY MANUFACTURING CO.
Executive Offices: 111 Broadway, New York *General Offices and Works:* Niagara Falls, N. Y.

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DRYING TIME . . . 2 MINUTES!

Photo: Courtesy Fostoria Pressed Steel Co.

Think of it! In only *2 minutes* Wabash-Birdseye Infra-red Heat Lamps bake the finish on these airplane parts in Bell Aircraft's Buffalo, N. Y., Plant!

Wabash will benefit peacetime production, too, saving time and money in all operations involving baking, drying and dehydrating. Reports from plant engineers indicate that Wabash-Birdseye Infra-red Heat Lamps often increase drying speed as much as 100% over older methods. Wabash-Birdseye Infra-red Heat Lamps are clean and economical to use. Thermostatic control is simple and easy. Maintenance is reduced to a minimum. As you swing into competitive peacetime production, with its emphasis on speed and efficiency, it may well be worth your while to consider the economies possible with Wabash-Birdseye Infra-red Heat Lamps.

Wabash-Birdseye Infra-red Heat Lamps are standard for most Infra-Red Tunnels, ovens, and other production line installations. In adapting your equipment to achieve the really dramatic results possible with Infra-Red, remember that Infra-Red heating is a science; *and, for maximum efficiency, Wabash-Birdseye Lamps should be used with scientifically engineered equipment.* We will gladly furnish names of manufacturers of such equipment.

WABASH APPLIANCE CORPORATION
345 Carroll Street, Brooklyn 31, N. Y.

WABASH-BIRDSEYE
First in INFRA-RED

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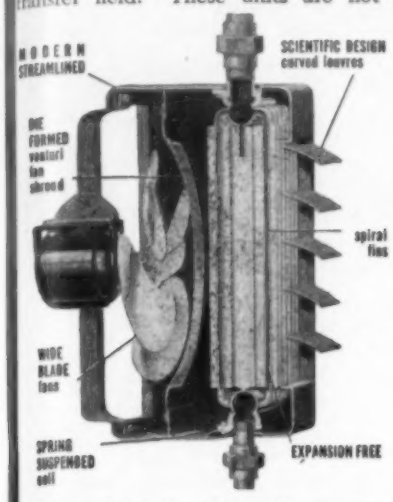
Unit Heater . . sets new standrad of quietness and heating efficiency

McCord Unit Heaters are a time proven product, embodying design based on years of experience in the heat transfer field. These units are not only rugged in design and guaranteed for use on #150 p.s.i. steam pressure, but are made attractive in appearance. Two outstanding features appeal to maintenance engineers — we use standard motors with standard bases which quickly permits the use of replacement motors should a motor fail in service—the heating element is made of individual spiral fin tubes which are free to expand independently without putting a strain on the brazed joints. The entire heating unit is spring suspended and floats free in the casing, eliminating rigid connections. Improved type fan blades deliver large volumes of air with minimum air noise and vibration which makes these units suitable for office and store use. A complete line of vertical projection type unit heaters and blast coils are also available. Catalog on request, or write for new folder "Instructions for Maintenance of Unit Heaters." **McCord Corporation**, Detroit, Mich.



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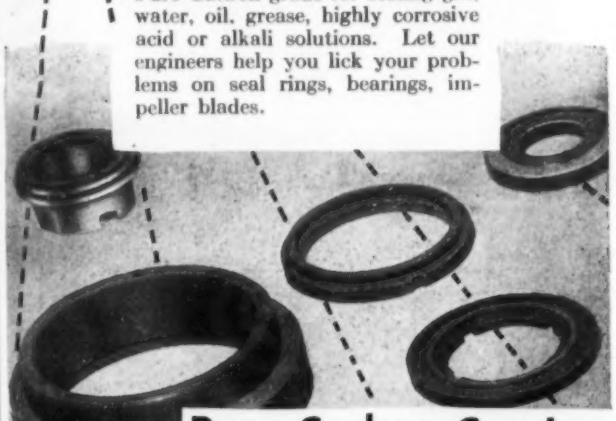
PURE Why Carbon Seal Rings Give Better Service

Made in a wide variety of grades, Pure Carbon seal rings do not melt or seize. Their inherently low friction allows extremely high rubbing speeds without excessive temperature rise. . . . There's a correct Pure Carbon grade for sealing gas, water, oil, grease, highly corrosive acid or alkali solutions. Let our engineers help you lick your problems on seal rings, bearings, impeller blades.



Pure Carbon Co., Inc.
2130 Nobrac St. • St. Marys, Pa.

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YALE LOAD KING

. . . All that the name implies

The Yale "Load King" Hydraulic Lift Truck provides:
—Easy lifting of loads up to 6,000 lbs.
—Easy steering within a 200 degree arc.
—Easy rolling on ball-bearing wheels.
—Hydraulic load release to cushion the descending load.
—The "Load King" is safe—no flying or dropping handle to injure or impede operators—no strain from heavy lifting.
For greater efficiency, speed, safety and lower costs, use Yale Hand-Lift Trucks.

YALE THE YALE & TOWNE MANUFACTURING CO.
4530 Tacony Street Philadelphia 24, Pa.

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FOR 101 METAL CUTTING JOBS

WELLS No. 8

• With a Wells No. 8 you can efficiently cut any size, shape or type metal you can fit into the saw. The work is simply clamped into the quick-acting vise and cutting begins. No more attention is required, for the gravity-feed and the automatic shut-off do the rest. Use your Wells for all types of cut-off work—in stores, tool rooms, maintenance. Move your portable Wells to the work and save time and labor. A simple wet cutting system is available for all Wells No. 8 models to allow coolant use on tough cutting jobs. It's a handy tool . . . this low-cost, versatile Wells No. 8. Write for details.

Wells

Products by Wells are Practical
METAL CUTTING BAND SAWS
WELLS MANUFACTURING CORPORATION
1313 HARDING ST., THREE RIVERS, MICHIGAN

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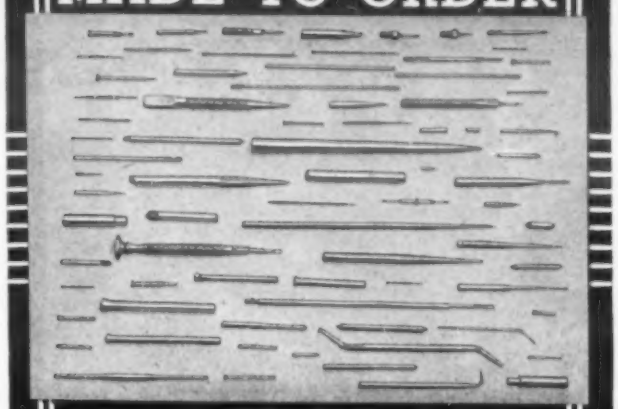

Unusually accurate metal parts including operations such as heading, rotary swaging, roll threading, fluting, knurling, pressing, milling, turning, grinding, forming, etc.

Single and double tenon studs turned on specially designed machines, held to close diameter tolerances, with no cut-off burrs.

Uniform heat treatment assured with the very latest equipment.

The Torrington Company
SPECIALTY DEP'T.
Torrington, Conn., U.S.A.

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RESISTOFLEX LINES CARRY INSOLUBLE CUTTING OILS UNDER HEAT, PRESSURE AND VIBRATION—KEEP REPLACEMENTS AT A MINIMUM!

Resistoflex lines to carry oil on the Cam-O-Lap grinding machine have proved completely satisfactory to its maker, the Norton Company of Worcester, Mass....and to users! For these lines not only withstand the constant flexing that exists, but their inner core of compar resists deterioration longer than any other type of flexible hose used.

THE BEST LUBRICANT AND HYDRAULIC LINES ARE RESISTOFLEX, TOO

RESISTOFLEX

Resistoflex Corporation RESISTOFLEX **Belleville 9, New Jersey**

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BY THE MAKERS OF RELIANCE ELECTRIC MOTORS

INCREASE PRODUCTION
with this inexpensive
ELECTRIC SPEED INDICATOR

Never before such an accurate, expertly designed speed indicator for only $50* complete! Developed by Reliance Electric to help you maintain proper production speeds—increase quantity and quality of output—guard against or quickly detect machine troubles. Accurate speed indications between 100 and 5000 rpm. Special scales available for other indications. Two or more Indicators may be attached to single Pick-up Unit, at any desired distance. *Mail coupon today!*

**Lower prices in quantities of 2 or more*

RELIANCE ELECTRIC & ENGINEERING CO.
1082 Ivanhoe Road—Cleveland 10, Ohio

We are interested in information on:
☐ Construction details and methods of applying Indicator
☐ Quantity Prices (in lots of 2 or more)
☐ Special Reading Scales for standard speed ranges
☐ Special Speed Ranges and Scales
☐ Please send descriptive folder No. 1268

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RELIANCE ELECTRIC & ENGINEERING COMPANY
1082 IVANHOE ROAD • CLEVELAND 10, OHIO

Sales Offices in Principal Cities

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The Facts About

SUPERIOR

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SMALL METAL TUBING UP TO 5/8" OD

Superior facilities are devoted exclusively to the production of small metal tubing. Long before the war we set our maximum size at 5/8" OD because experience has shown that only by so doing could we maintain high quality in the smaller diameters. As a result, we have a mill operating at top speed which has been especially equipped to produce in a routine manner what formerly was known as "specialty" tubing. So, if you need cold drawn tubing in any metal, and the OD does not exceed 5/8"—then the inherent benefits of our specialization are yours for the using.

Specify SUPERIOR TUBING

SUPERIOR TUBE COMPANY
NORRISTOWN, PENNSYLVANIA

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Now 40% GREATER DISCHARGE CAPACITY

IDEAL *Rechargeable* Flashlight STORAGE BATTERY

NOW IMPROVED!

This increased discharge capacity means:—MUCH BRIGHTER, LONGER SUSTAINED LIGHT—smaller voltage drop assuring TOP LEVEL-LIGHT VOLUME—Even greater flashlight satisfaction than already experienced by MANY THOUSANDS OF USERS—can OUTLAST 400 or more DRY CELLS—SAVES up to $10 on each flashlight. Fits standard flashlight case using 2 or more 1¼" size D dry cells.

GUARANTEED!

IDEAL Battery Chargers in single, 6-gang and 12-gang types, plug into any light socket. Also rechargeable from automobile ignition line.

PROMPT DELIVERY — Write for Bulletin BB345

IDEAL *Sycamore*

Storage Battery Division
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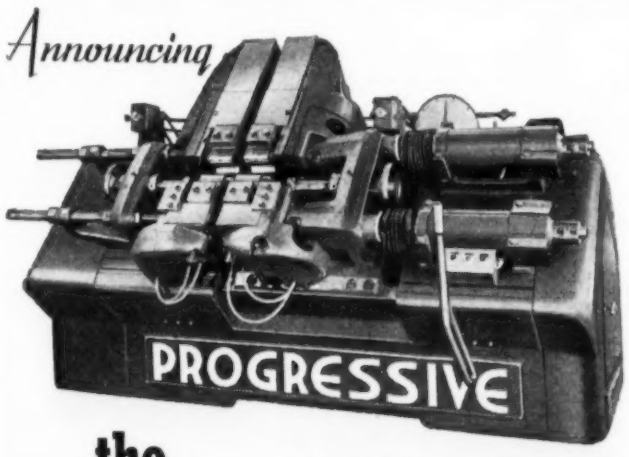
Announcing



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- One piece cast steel frame
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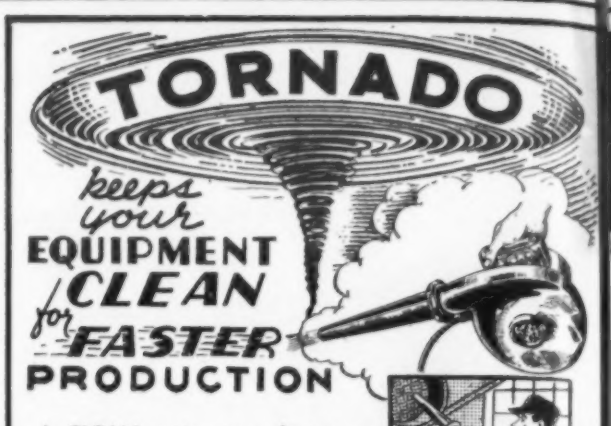

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with BREUER'S BALL BEARING TORNADO
PORTABLE ELECTRIC BLOWERS

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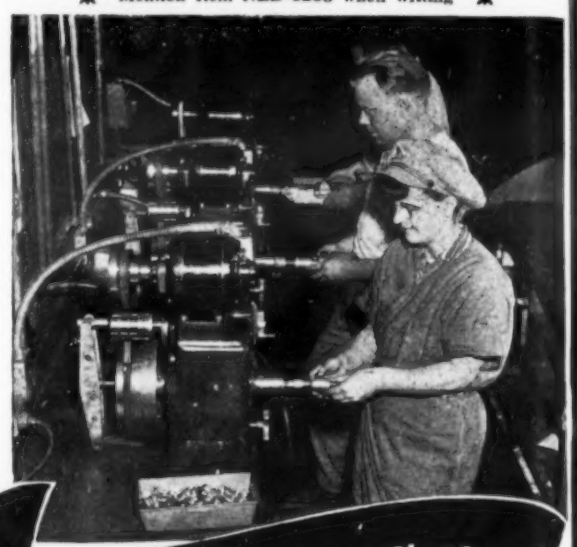

Where Fine Finish and Close Tolerance Are Demanded Interstate Aircraft Uses the SUNNEN PRECISION HONING MACHINE

On the machine farthest from the camera the operator is honing a body for a tank hoist reservoir assembly made of Dural stock. Tolerance is plus or minus .0005", finish must be within 10 micro inches.

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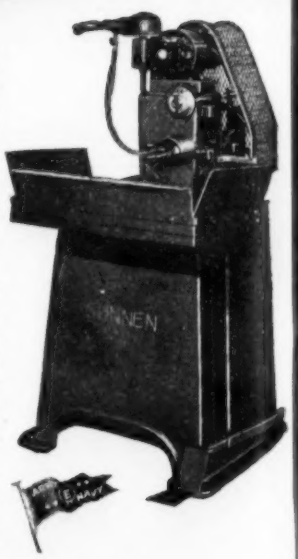

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Excellence in Electronics

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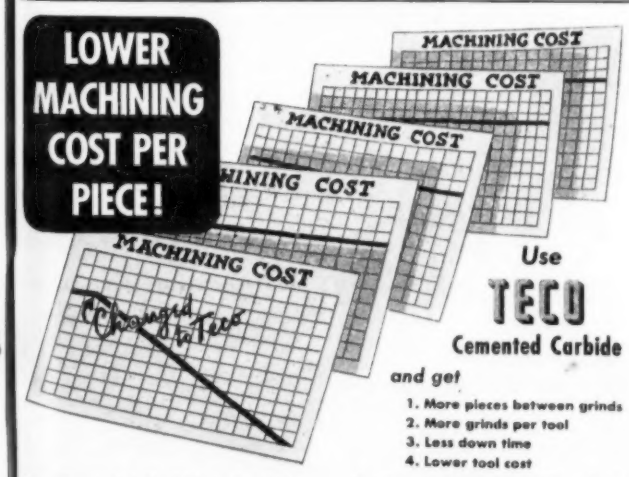

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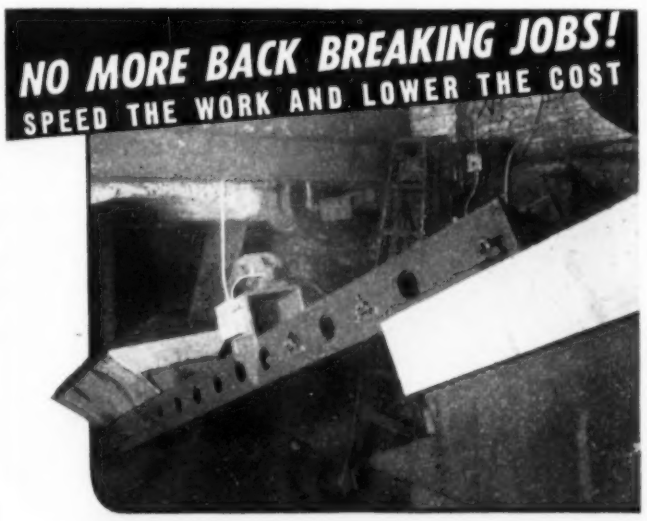
NO MORE BACK BREAKING JOBS!
SPEED THE WORK AND LOWER THE COST



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GRIPPING FORCE 15 TIMES AIR LINE PRESSURE

• Speedy Air Vise helps workers get out more and better work—in less time! Foot control valve opens and shuts vise instantly, leaving *both* hands free to produce. Operates from air line or individual compressor, exerting a grip of 15 times air line pressure. Jaw opens up to 3 inches, easily fitted to hold castings, parts, jigs, etc. Speeds up every drilling, light milling, tapping and assembly operation. Compact, sturdy, trouble-free, low in cost! ►►►► *Speedy Air Vise, complete with Foot Control Valve, Air Hose and Fittings, only* $24

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AIR REGULATORS • AIR FILTERS • AIR GUNS • PORTABLE COMPRESSORS

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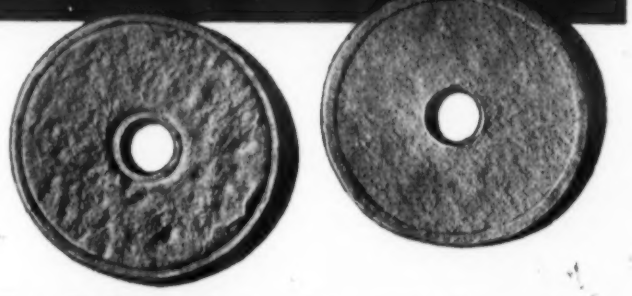
ALSOP "HY-SPEED" FILTERS



The ALSOP Disc...it's very important

Two Filtering Surfaces . . . resulting in extra high capacity
Graded Layers of Fibers . . . preventing "blinding" by slime
Wide Range of Densities . . . permitting close selectivity

The filtering element in any filter is an important factor. In ALSOP Hy-Speed FILTERS it is *the* important element, for it is so designed and constructed as to provide an exceptionally high flow of clear—no not even cloudy—filtrate.

The whole story of ALSOP Hy-Speed FILTERS is told in a descriptive folder. In writing, please give full details of the solution to be filtered.

10 AL-2

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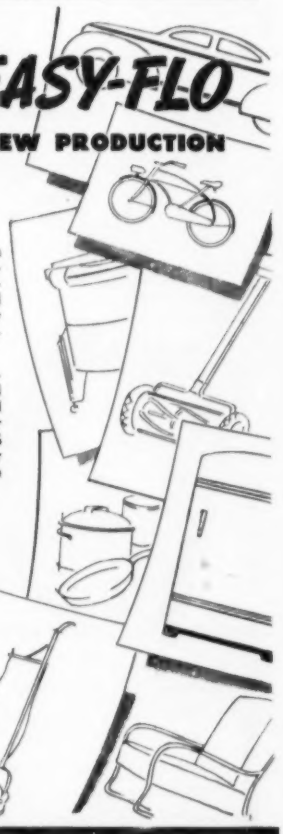
READY TO START ON NEW PRODUCTION
NOW!



Ways of getting maximum benefits from these two versatile alloys have been crystallized during the last few years into definite brazing procedures which take full advantage of SIL-FOS and EASY-FLO's low brazing temperatures and fast brazing action.

No matter what your problem is—making a few joints by torch or a hundred thousand by an automatic heating method—joining ferrous, non-ferrous or dissimilar metals—it will pay to find out how SIL-FOS and EASY-FLO can help you make better joints at lower cost. Deliveries are again approximately back to normal.

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IT STAYS PUT!
The
UNBRAKO
Reg. U. S. Pat. Off.
Self-Locking Set Screw
with the KNURLED Cup Point

Pat. & Pats. Pending

It stays put BECAUSE its cup-point is knurled. It digs in when the screw is tightened as usual and locks it firmly in place. No amount of vibration will cause it to unwind. Yet it is easily removed with a wrench and may be used over and over again.

Sizes from No. 4 to 1½" diameter—full range of lengths.

Knurling of Socket Screws originated with "Unbrako" years ago.

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OVER 40 YEARS IN BUSINESS

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Boston • Detroit • Indianapolis • Chicago • St. Louis • San Francisco

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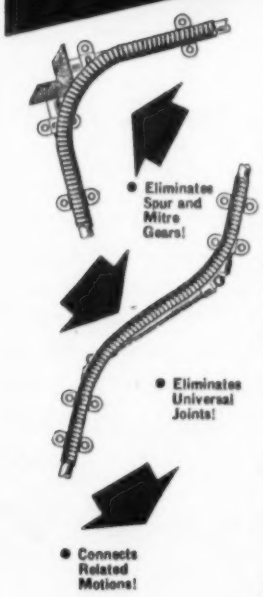
FOR THE
TRANSMISSION OF POWER
Between OFF-CENTER UNITS
and AROUND CORNERS

STOW
FLEXIBLE SHAFT



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• Less moving parts, fewer angles in power line, less gears, no universal joints! Compact, efficient STOW Flexible Shafts are the quickest, most dependable, most economical way to achieve a simple system of drive.

Simplifies Assembly—
• One element, rather than a dozen or more, to install! Saves time, money, makes the assembly foolproof and avoids expensive servicing later!

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• Gets Around Obstacles!

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"The How and Why of Flexible Shafting" contains the basic information that you, as a designer, need to incorporate this important principle in your postwar plans!

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Position.....
Company.....
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City..... State.....

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New Literature—Continued

HYDRAULIC FEED BORER—8-page illustrated bulletin No. 131 presents details and technical data on model CDH borer for production boring of large number of regularly spaced holes of varying sizes and spacings in wood, for line boring and boring or drilling plastics, fiber and composition materials and light metals—issued by B. M. Root Co., York, Pa.

▲ Mention Item NED-6299 when writing ▲

ELECTRICAL EQUIPMENT — Illustrated catalog gives descriptions and technical data on line of safety switches, service control, multibreakers, electrical specialties and most widely used motor control items—issued by Cutler-Hammer, Inc., 574 N. Twelfth St., Milwaukee 1, Wis.

▲ Mention Item NED-6300 when writing ▲

AIR CYLINDERS & VALVES—Illustrated catalog No. 50 describes seven models of nonrotating double-acting air cylinders, aluminum alloy rotating air cylinder, and features of four-way air control valve and other valves—issued by Gerotor May Corp., 444 Tacoma Ave., Logansport, Ind.

▲ Mention Item NED-6301 when writing ▲

TAPS—12-page illustrated "Tap Guide" presents comparisons of tap pitch tolerances with NSTC fits, basic thread dimensions, tap drill sizes, machinability ratings of various metals by identification numbers, cutting fluid recommendations, cutting speeds, tap terms, decimal equivalents and causes of tap troubles—available upon request on company letterhead—issued by Wood & Spencer Co., 1904 E. 61st St., Cleveland, O.

▲ Mention Item NED-6302 when writing ▲

INDUSTRIAL VISION PROGRAM—16-page illustrated booklet "Vision in Industry" describes service to determine correct placement of workers according to visual skills—explains methods of ascertaining requirements of various jobs and giving probabilities of success of candidate in each position—issued by Bausch & Lomb Optical Co., 727 St. Paul St., Rochester, N. Y.

▲ Mention Item NED-6303 when writing ▲

PHENOLIC RESIN GLUES—8-page illustrated booklet "Bakelite Phenolic Resin Glues for Plywood" describes resin adhesives and shows where they can be used to best advantage —applications, properties, cure temperatures and pressures used are covered—issued by Bakelite Corp., Dept. E, 30 E. 42nd St., New York 17, N. Y.

▲ Mention Item NED-6304 when writing ▲

CRUSH FORM GRINDING—Illustrated bulletin "Facts About Crush Form Grinding Precision Contours" presents details on process of crush form grinding and gives examples of machines designed to crush and true wheels by most efficient process—issued by Dept. 25, Thompson Crush-Form Contour Grinding Development Laboratory, Springfield, O.

▲ Mention Item NED-6305 when writing ▲

PERSONNEL PLACEMENT—Folders "The Van Allyn Job Placement Technique" illustrates method for selecting and placing personnel and establishing practical job specifications—issued by National Institute of Vocational Research, Inc., Dept. C, 215 W. Fifth St., Los Angeles 13, Calf.

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WALES
HOLE PUNCHING UNITS

Now Available to Manufacturers of Other Heavy Plate Products

The problem was to punch holes in Army tank plate ¼ inch thick. To meet these requirements Wales-Strippit engineers developed these heavy-duty Type "BJ" Units. • All the exclusive time-saving, money-saving advantages that have made Wales Units standard tooling in thousands of metal fabricating plants are built into these new heavy-duty Units. • After months of successful operation on stamping presses and press brakes, these Type "BJ" Units are available to all manufacturers of products using material up to ¼ inch thick.

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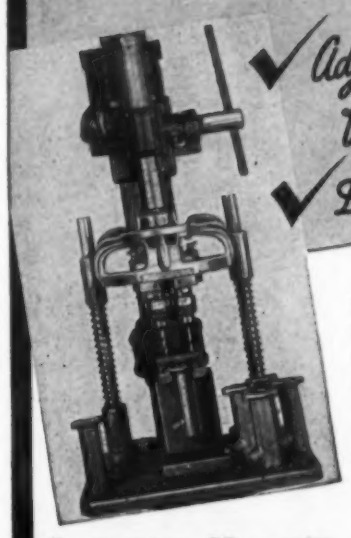
TWO SPINDLE
Adjustable
DRILL HEADS
Drill Two Holes At Once



✓ *Adjustable Centers from ½" to 6"*
✓ *Drill Capacity 0" to 5/8"*

Sleeve and overarm types . . . in several sizes. Will double output of any single spindle drill press.

Quickly adjusted to desired drill centers from ½" to 6".

Send for bulletin.

LINDERME MACHINE & TOOL CO., INC.
12263 COYLE AVE., DETROIT 27, MICH.

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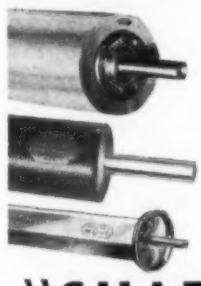
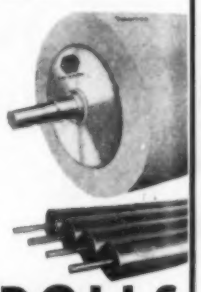
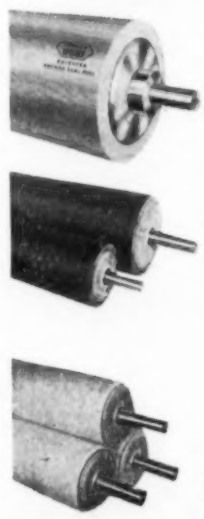


MANY INDUSTRIAL ROLL PROBLEMS are solved by using



"SHAF-TITE" ROLLS



Many patented constructions provide strongest possible shaft setting. Your choice of many different types and materials—wood, rubber, iron, brass, stainless steel, plastic, etc. Whatever your roll problem, put it up to

RODNEY HUNT

SEND FOR CATALOG TODAY!

RODNEY HUNT MACHINE CO.
73 Maple Street, Orange, Mass.

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FEATHERWEIGHT
CONVEYORS
by PORTABLE

ADAPTABILITY . . .
You'll find unlimited uses for Farquhar Portable "Featherweight" Conveyors . . . handling bags, boxes, cartons, etc., singly or in tandem — horizontal or elevating service—forward or reverse.

SPEED . . .
Items weighing up to 125 lbs. each carried at the rate of 25 per minute.

ECONOMY . . .
Conveyor is easily moved by one man —saves time and manpower.

WRITE FOR CATALOG 391

Farquhar
PORTABLE MACHINERY DIVISION
A. B. FARQUHAR COMPANY
204 Duke Street York, Pa.

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SOUTH BEND

—FOR PRODUCTION OF SMALL, ACCURATE PARTS
—FOR PRECISION OPERATIONS IN TOOLROOMS

The metal working industry knows the South Bend 9-inch Lathe as a fine precision tool capable of machining work to exacting tolerances. For the quantity production of small, accurate parts or for precision operations in the toolroom, experimental shop or laboratory, it is unsurpassed. Because it is fast, accurate and versatile it is popular, too, for general use in machine shops and service shops. Write for our new Catalog 100-D showing, describing this and other South Bend Toolroom, Engine and Turret Lathes.

SOUTH BEND LATHE WORKS
Lathe Builders For 38 Years
443 E. MADISON ST., SOUTH BEND 22, IND.

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A.S.A. Standard

Drill Jig BUSHINGS

For absolute uniformity, easy replacement, and long life, specify Ex-Cell-O Drill Jig Bushings. Stocks are carried in New York and Los Angeles offices as well as Detroit.

EX-CELL-O CORPORATION
DETROIT 6

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RITCO

Cut or Rolled
PRECISION THREADS

Rely on RITCO *precision threaded* studs and bolts. Close tolerances—class 3, 4 & 5 fits—held on ferrous metals, stainless steel, brass and monel . . . rolled threads 1/4" to 1", cut threads 1/4" to 2½". Estimates gladly submitted.

Rely on RITCO *for*
SPECIAL BOLTS, NUTS AND STUDS
DROP FORGING AND DIE SINKING
HEAT TREATING • PARKERIZING
CENTERLESS GRINDING

Catalog on Request

RHODE ISLAND TOOL COMPANY
143 West River St. Providence 1, R. I.

▲ Mention Item NED-6313 when writing ▲

New Literature—Continued

CUTTING TORCHES & TIPS—36-page full-color illustrated catalog No. 52 deals with hand cutting torches, machine cutting torches, tips and cutting attachments—includes applications, instructions for use, specifications and price list—issued by Victor Equipment Co., 846 Folsom St., San Francisco, Calif.

▲ Mention Item NED-6314 when writing ▲

BALL BEARING ENDBELLS—8-page illustrated bulletin presents information on line of replacement endbells and housings with which sleeve bearing electric motors and pumps are converted to ball or roller bearing operation—issued by Keystone Electric Co., 1220-1230 Ridgely St., Baltimore 30, Md.

▲ Mention Item NED-6315 when writing ▲

STAINLESS STEEL—96-page illustrated handbook shows applications of various types of stainless steel, contains data on gages, sizes, tolerances and finishes and discusses processing and fabrication—issued by Eastern Stainless Steel Corp., Baltimore 3, Md.

▲ Mention Item NED-6316 when writing ▲

SHADED POLE MOTORS—16-page illustrated bulletin No. 10-A deals with shaded pole type motor with capacity ranging from 1/200-horsepower to 1/20-horsepower and speed from 3200 to 1050 revolutions per minute—motor selection table, detailed drawings and dimensions are included—issued by Robbins & Myers, Inc., Dept. C, Springfield, O.

▲ Mention Item NED-6317 when writing ▲

HIGH FREQUENCY HEATING—16-page illustrated pamphlet is preprint of industrial magazine advertisements showing case studies and applications of Ajax-Northrup high frequency heating and melting furnaces and heaters—issued by Ajax Electrothermic Corp., Ajax Park, Trenton 5, N. J.

▲ Mention Item NED-6318 when writing ▲

ELECTRONIC AIR FILTERS — 20-page illustrated booklet "The Magic of Electronics in Air Filtration" discusses method of removing entrained solids from air or gases by means of electric attraction — Electro-Matic, Electro-Cell, Electro-Airmat and Electro-Mist filters are described and importance of air filtration to various industries is pointed out—issued by American Air Filter Co., 262 Central Ave., Louisville 8, Ky.

▲ Mention Item NED-6319 when writing ▲

WELDING MAGNESIUM PARTS—4-page technical memorandum No. 10 describes materials, equipment and procedure for emergency repair of broken or cracked magnesium parts by oxyacetylene gas welding—tables serve as guide to selection and regulation of equipment and choice of magnesium alloy welding rod—issued by Dow Chemical Co., Jefferson Ave., Midland, Mich.

▲ Mention Item NED-6320 when writing ▲

INDUSTRIAL DESIGN OPPORTUNITIES — 12-page illustrated booklet discusses opportunities in design and engineering organization—history, work, structure and objectives are covered—issued by Designers For Industry, Inc., 2915 Detroit Ave., Cleveland 13, O.

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The WHIZOOKA means sure, quick death to roaches, ants, silverfish, bedbugs! This sensational roach gun comes fully loaded with a powerful new insecticide—*ready for instant use anywhere!* Just aim the WHIZOOKA and shoot a cloud of deadly dust into cracks and runways wherever you have insect pests.

It kills *fast*—faster than Sodium Fluoride . . . retains its deadly properties longer than Pyrethrum. It's harmless to animals and human beings. Beat the bugs! Order from your WHIZ distributor. *Industrial Division, R. M. Hollingshead Corporation, Camden, New Jersey; Toronto, Canada.*

Whiz **WHIZOOKA ROACH GUN**

A PRODUCT OF *Hollingshead*
LEADER IN MAINTENANCE CHEMICALS

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"HOLGUN"*
—THE ¼" DRILL FOR PEAK PRODUCTION

The Van Dorn Holgun is only 6¾" long, weighs only 2¾ lbs.,—yet is "a handful of power" for continuous production use. Comes in seven no-load spindle speeds: 500, 750, 1000, 1700, 2500, 3500 or 5000 R. P. M. and in Standard and Heavy Duty types. Order from your Van Dorn Distributor. For Catalog of more than 100 cost-cutting Electric Tools in the Van Dorn line, write to: The Van Dorn Electric Tool Co., 762 Joppa Rd., Towson 4, Md.

FOR POWER SPECIFY
"Van Dorn"
*Trade Mark Reg. U. S. Pat. Off.
(Div. of Black & Decker Mfg. Co.)
PORTABLE ELECTRIC TOOLS

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DURO-CHROME

STAMINA
Another Mighty Good Reason Why They're Called
Doggone Good Tools!

There's a "feel" of reserve strength in Duro Chrome Hand Tools that every mechanic will recognize . . . the feel of sturdy dependability that leads to the satisfaction of a job well done. Duro Box Wrenches are made in a wide range of sizes to fit every job . . . to provide a dependable "third hand" for reaching those hard-to-get-at places with ease.

Duro Metal Products Co.,
2649 N. Kildare Ave., Chicago 39, Ill. 1072

DURO TOOLS (HAND TOOL DIVISION)
The Mechanic's Best Friend
OVER A BILLION BUILT SINCE 1916
ALSO MAKERS OF DURO MACHINE TOOLS

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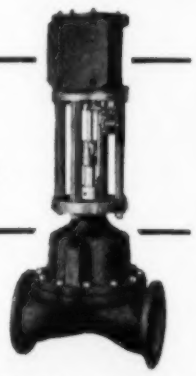
the answer

. . . to Valve Remote Control Problems



Hills-McCanna Diaphragm Valve with Westinghouse Flexair and Controlair Controls.

Now you can have all the advantages of a Hills-McCanna valve . . . plus operation by air. It's the answer to many valve remote control problems. Westinghouse Flexair and/or Controlair Controls and an air actuated piston mounted on a Hills-McCanna Diaphragm Valve, provide a reliable means of valve control from a central point.

If your need is for a simple open and close valve operation, a Hills-McCanna unit, equipped with a Flexair Control, may solve your problem. And where a throttling type valve is required, Controlair Controls and a Hills-McCanna Diaphragm Valve and Piston operation, will help meet your want.

Since all installations include an auxiliary air tank as part of the design, there's power to operate the valve even if the main air supply or all other power should fail.

And remember, Hills-McCanna Diaphragm Valves are absolutely leakproof, control the flow and keep unwanted material out of the line, won't clog or stick . . . have working parts isolated from the flow . . . and require no packing.

Write for the fact-packed blueprint. Available in sizes ranging from 4" to 12" inclusive.

HILLS-McCANNA COMPANY
2455 West Nelson Street, Chicago 18, Illinois

HILLS-McCANNA *Diaphragm* Valves
SAUNDERS PATENT
Air and Water Valves - Chemical Valves - Marine Valves - Proportioning Pumps - Force Feed Lubricators - Magnesium Alloy Castings

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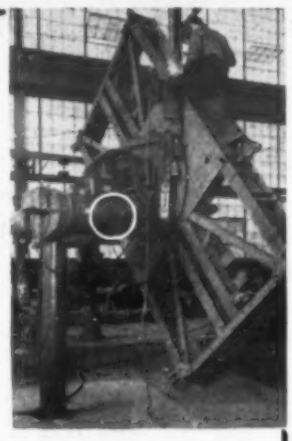
Stearns MAGNETIC

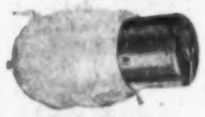
BRAKES are IMPORTANT on WELDING Positioner



Stearns Magnetic Disc Brakes (in circle) are important for motor control on the popular Cullen-Friestedt welding positioner. They prevent coasting or overrunning of the rotating or tilting tables.

This is only one of many applications efficiently and economically solved with Stearns Magnetic Brakes. Why not have us take a look at any possible problem you may have that requires stopping of rotating machinery. It may be in your plant or in your product.

With our many years of pioneering experience in developing magnetic friction devices it is possible we can be of definitely profitable assistance to you. We've helped many engineers. How about you?



Typical Motor Application

Write for our Bulletin 604 on Stearns Magnetic Disc Brakes.

STEARNS MAGNETIC MFG. CO.
653 S. 28th Street Milwaukee 4, Wis.
SEPARATORS—CLUTCHES—PULLEYS—DRUMS—MAGNETS

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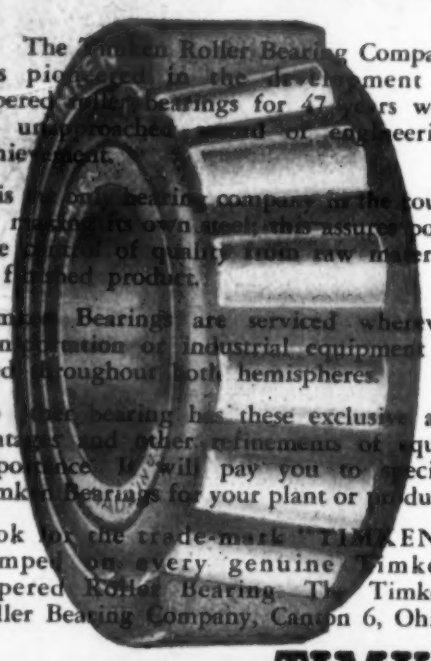
all THERE IS IN BEARINGS



The Timken Roller Bearing Company has pioneered in the development of tapered roller bearings for 47 years with an unapproached record of engineering achievement.

It is the only bearing company in the country making its own steel, this assures positive control of quality from raw material to finished product.

Timken Bearings are serviced wherever transportation or industrial equipment is used throughout both hemispheres.

No other bearing has these exclusive advantages and other refinements of equal importance. It will pay you to specify Timken Bearings for your plant or product.

Look for the trade-mark "TIMKEN" stamped on every genuine Timken Tapered Roller Bearing. The Timken Roller Bearing Company, Canton 6, Ohio.

TIMKEN
TRADE-MARK REG. U. S. PAT. OFF.
TAPERED ROLLER BEARINGS

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CHICAGO CUT-OFF WHEELS

From the swift era of war production comes another modern miracle, the cut-off wheel—man power and man hour saver—for fast, smooth cutting of tubing, wire, steel and brass sheets, glass, porcelain, Stellite, tungsten, plastics, laminates and other hard-to-slice materials.

Cool running CHICAGOS are available in rubber or resinoid—all styles and sizes. 3 bond types—for every operation.

Write for Cut-Off Circular

Tell us what you have to cut, grinder you use and size wheel. We'll send a test wheel promptly.

CHICAGO WHEEL & MFG. CO.
1101 W. Monroe St., Dept. NE, Chicago 7, Ill.

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New Literature—Continued

SMALL MOTORS—12-page illustrated bulletin No. 10-B presents information on universal and direct current motors which operate at 60-cycle speeds, whether current is direct or 60, 50 or 25-cycle alternating current—issued by Robbins & Myers, Inc., Dept. C, Springfield, O.

▲ Mention Item NED-6329 when writing ▲

PRESSED METAL SPECIALTIES—Illustrated pamphlet presents information on pressed metal stampings, spools and reels—manufacturing facilities and products are shown—issued by American Pulley Co., 4245 Wissahickon Ave., Philadelphia 29, Pa.

▲ Mention Item NED-6330 when writing ▲

HIGH PRESSURE DIE CASTING—130-page illustrated book "High-Pressure Die Casting, A Design Guide for Engineers" covers process of die casting and metals used, types of die casting dies and their varying degrees of complexity, relationship of casting design to die design, and important elements of correct design of parts to be produced by die casting method—price is $5.00—published by H. L. Harvill Mfg. Co., P. O. Box 335-P, Vernon, Calif.

▲ Mention Item NED-6331 when writing ▲

MOTOR-GENERATOR MAINTENANCE—36-page illustrated pamphlet "Economic Design of Modern Pressure Vessels" is reprint of article by E. F. Brummerstedt—presents analytical methods for determining economic design of pressure tanks for specific working conditions—issued by Lukens Steel Co., 308 Lukens Bldg., Coatesville, Pa.

▲ Mention Item NED-6332 when writing ▲

IDLER BACKSTANDS — 8-page illustrated circular "'Plus' Factors in Belt Grinding and Finishing with Idler Backstands" discusses principles of operation and advantages and shows details, equipment in operation and parts produced—issued by Behr-Manning Corp., Troy, N. Y.

▲ Mention Item NED-6333 when writing ▲

STAINLESS STEEL—28-page illustrated brochure "Superior Stainless Strip Steels" describes properties, compositions and applications of various types and grades of stainless steel—contains technical tables on each type, on physical and mechanical properties of certain metals and alloys and table on weights of steel strip—issued by Superior Steel Corp., Carnegie, Pa.

▲ Mention Item NED-6334 when writing ▲

COLD METAL WORKING—12-page illustrated booklet "The Story of Yoders" describes coil handling equipment, flat-rolled steel slitters, electric weld tube mills, cold roll forming mills, and special metal working machinery—issued by Yoder Co., 5501 Walworth Ave., Cleveland 2, O.

▲ Mention Item NED-6335 when writing ▲

X-RAY SPECTROMETER—12-page booklet "Engineering-Design Development of X-Ray Spectrometer" discusses X-ray diffraction principles, new instrument requirements, X-ray source, pulse conditioning, frequency meter circuit, counting meter circuit, meters and controls, and applications—issued by North American Philips Co., 100 E. 42nd St., New York 17, N. Y.

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Mortite UTILITY TAPE

KEEPS COLD OUT KEEPS HEAT IN

This quick, easy-to-put-on weatherstripping seals your buildings against drafts and cold, stops expensive heat leaks, keeps out dust and dirt.

ANYONE CAN APPLY

Mortite pliable plastic tape comes ready to use. Unrolls like ribbon. Just press into place around windows, transoms, doors, baseboards, etc. No tacking or tools needed. Adheres to any clean, dry surface. Goes on in a jiffy, comes off quickly in spring.

About 80 feet to a roll. Order through your supply house, or $1.25 postpaid.

Higher west of Rockies and Canada

Mortite Circular Free

J. W. MORTELL CO.
526 BURCH ST.
KANKAKEE, ILLINOIS

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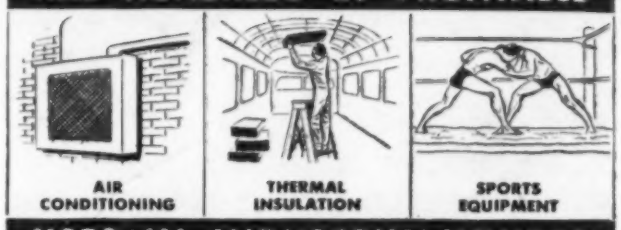
Texlock BONDED FIBRE

HAS HUNDREDS OF PROFITABLE



USES IN INDUSTRY—YOURS?

Send for samples and information on this versatile industrial material—visualize the usefulness its lively enduring characteristics can bring to your products! Write: Sponge Rubber Products Co., 131 Derby Place, Shelton, Conn.

*Trade Mark Reg. U. S. Pat. Off.

TEXLOCK Available Now — COMBIFOAM Available Early 1946 — SPONGEX* Available Now

SPONGE RUBBER PRODUCTS CO.
SPONGEX CELL-TITE* TEXFOAM* TEXLOCK
WORLD'S LARGEST MANUFACTURER OF CELLULAR RUBBER AND BONDED FIBRE PRODUCTS

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HEIN-WERNER HYDRAULIC JACKS are a big help on reconversion jobs in plants

● Industrial plants will find Hein-Werner Hydraulic Jacks have many uses. These compact, super-powerful, easy-operating jacks are great for lifting heavy loads, moving machinery, pressing gears, pinions or bushings.

Made in models of 3, 5, 8, 12, 20, 30, and 50 tons capacity. For details, consult nearest industrial supply distributor, or write us.

HEIN-WERNER MOTOR PARTS CORP.
Waukesha, Wisconsin

HEIN-WERNER HYDRAULIC JACKS
Are Built Right and Priced Right

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NEW PLASTIC FLOOR PATCH SETS INSTANTLY

TAMP SMOOTH! TRUCK OVER!

Use durable INSTANT-USE . . . a tough, plastic material which you simply shovel into hole—tamp—and run traffic over immediately. NO WAITING. Bonds tight to old concrete. Makes smooth, solid, heavy-duty patch. Withstands extreme loads. Keep a drum on hand for emergencies. Immediate shipment.

REQUEST DESCRIPTIVE FOLDER and TRIAL OFFER Details

INSTANT-USE

FLEXROCK COMPANY
3603 Filbert St., Philadelphia 4, Pa.

Please send me complete INSTANT-USE information and details of FREE TRIAL OFFER—no obligation.

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Company .....
Address .....

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